CHICAGO SCHOOLS JOURNAL

What We Perceive
High School Reading
Space-Age Science
Teaching Fractions

February, 1960

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Contents

Volume XLI, No. 5 February, 1960

Who We Are Determines How We "See" 209
Elliot Eisner

High School Reading Course for College-bound Students 214
Frances Fitzgerald

Teaching Space-Age Science to Children 223
William I. Harber

Building a Basic Understanding of Fractions 227
Eleanor Koterski

News in Education 234
Edited by George J. Steiner

Current Periodicals 240
Edited by John M. Beck

New Teaching Aids 244
Edited by Joseph J. Urbancek

Important New Books 248
Edited by Louise M. Jacobs

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Who We Are Determines How We "See"

Emotions, Values, Experience Limit What We Perceive

● *Elliot Eisner*

Ben Shan, the modern painter, tells a story about a city lad who used to visit his grandfather, who lived in a rural part of the Southwest. The boy eagerly looked forward to his summer visits and to the hikes he and his grandfather would take. Hikes for old Indian arrowheads were something that he always enjoyed and, in order to make sure that he found more arrowheads than the old man, the boy would walk a few paces ahead. But, much to his chagrin, each time the lad looked back he would see his grandfather reaching down for an old arrowhead that lay in the sand.

The boy decided to change the procedure. He would walk behind and his grandfather would walk ahead. But the same thing continued to happen. His grandfather would find arrowhead after arrowhead, while the boy returned home with only a few. Nothing seemed to work in his favor and he just couldn't understand why his grandfather found three or four times as many arrowheads as he.

Many Ways of Perceiving The Same Experience

In *Art As Experience*,[1] John Dewey retells the following. "In his *Enjoyment of Poetry* Max Eastman uses the apt illustration of men crossing the river, we will say coming into New York City on a ferry boat, to bring out the nature of an esthetic experience. Some men regard it as simply a journey to get them where they want to be — a means to be endured. So, perhaps, they read a newspaper. One who is idle may glance at this and that building, identifying it as the Metropolitan Tower, the Chrysler Building, the Empire State Building, and so on. Another, impatient to arrive, may be on the lookout for landmarks by which to judge progress toward his destina-

[1]John Dewey, *Art As Experience* (New York, 1934), p. 135.

Why do some pupils "get the point" of an experience and others fail to do so? Is the ability to perceive a situation in a given way related only to intelligence? Elliot Eisner, teacher of art at the Laboratory School of the University of Chicago, suggests in this provocative article that factors other than intelligence may play a very large part in determining the success with which pupils "see" what they experience. Teachers of all subjects at all levels may find helpful in their work Mr. Eisner's penetrating comments on factors limiting perception.

tion. Still another, who is taking the journey for the first time, looks eagerly but is bewildered by the multiplicity of objects spread out to view. He 'sees' neither the whole nor its parts; he is like a layman who gets into an unfamiliar factory where many machines are plying.

"Another person, interested in real estate, may see, in looking at the skyline, evidence in the height of buildings of the value of land. Or he may let his thoughts roam to the congestion of a great industrial and commercial center. He may go on to think of the planlessness of arrangement as evidence of the chaos of a society organized on the basis of conflict rather than cooperation. Finally, the scene formed by the buildings may be looked at as colored and lighted volumes in relation to one another, to the sky, and to the river. He is now seeing esthetically as a painter might see."

Both of these stories are relevant for those who are concerned with perception and those factors which affect it. In the first story, the boy was unable to see what he was looking for. He wanted to find arrowheads; one might say that he had an emotional need to find arrowheads, but somehow he bypassed what his grandfather found so easy to see. If we examine the nature of this experience for the boy as well as for the grandfather we shall find that an emotional need to have a perceptual experience is insufficient to fulfill that need unless the necessary skills are also present.

Heightened Emotion Can Handicap Perception

The grandfather was able to see relationships between the figure and its ground. He was sensitive to this experience because he was very familiar with a specific visual configuration. The boy was groping. His discoveries were more accidental than controlled; he lacked a skill needed to fulfill his emotional need. It may even be that his emotional need hindered any perception that he might have developed. Oftentimes our emotions are so overpowering that we lose sight of that which we are seeking. In areas where emotion is greatly heightened, perception becomes handicapped. One may indeed become "blind with rage." When this happens, the discharge of energy through overt emotional release overpowers the individual so that he is unable to control his perceptual powers. The individual's need, in such cases, centers around output rather than intake. Perhaps the most familiar contemporary manifestation of this prevention of perception through absorption with emotionally-colored needs can be seen in theater-goers.

Most of us are familiar with people who frequent the opera or movies and who completely miss the aesthetic satisfaction that these art forms can provide because their need to experience these art forms stems from a need to have an emotional catharsis. Such people often cry at the slightest provocation during the performance and in effect they attend such performances in order to "have a good cry." It is the crying that they enjoy, and they generally feel satisfied when a performance has been able to provoke tears. It is really questionable if, after a certain point, they even hear the music or the dialogue.

Perception Related To Individual's Experience

Perception depends partly on experience. It relies upon an individual's ability to reapply what he has already learned. One of the major reasons why people have such a great difficulty appreciating abstract art is that they find it very difficult to apply what they have learned. A picture of a barn and trees and fields looks familiar to most people. They can view such a picture through the eyes of previous experience and some are even able to reminisce over the things they did as children around the old farm. They bring to the representational picture a backlog of practical everyday experience. Their familiarity with the objects leaves them comfortable; they know what to make of it.

But purely abstract art is not so soothing to many individuals. Their previous experience does not seem to fill the bill; everything on the canvas looks meaningless and disorganized. These people have not yet learned how to see in purely abstract ways. They have not yet learned the language of harmony, balance, form, space, and color within a non-symbolic world. They are not able to perceive elements separated from their symbolic context. It is only after they are able to perceive the abstract relationships in the picture that they are able to see it as an aesthetic object. This ability requires behavior that is both skilled and learned. Until a person learns how to apply such perception, he will ofen prefer the gentle picture of the cuddly pussy cat to the strict and sensitive spatial relationships in a Mondrian.

Guided Experiences Needed To Develop Perception

In the classroom, teachers need to guide their pupil's visual perceptive experiences. The lad who is sensitive to soil and rock will find it infinitely easier to see the terrain on a field trip than the little girl who has not yet learned how to see such material. A teacher who expects to provide similar experiences for these two children is deluding himself. The prior problem is one of providing the little girl with preparatory experiences in order for her to "see the arrowheads." Such guided experiences can then be reinforced with field trips, geological exploration, and the like. As students develop familiarity with a given configuration through a guided experience, they are enabled to refine and buttress their perceptive capacities for perceptual experience.

Just as familiarity and skill affect perception, so do values impinge upon perception, either limiting it or broadening it. The man on the ferry boat who sees the tall buildings only as symbols of land value and the botanist who sees trees and flowers only as manifestations of evolutionary progress are missing perceptual experience of a particular nature. Both men are seeing objects in terms of certain value orientations. What they cherish interferes with what can be seen. The art collector who acquires a painting at thousands of dollars may miss the potential aesthetic experience entirely if his values lie in the extrinsic rather than the intrinsic nature of the work of art.

Changing Values Alter Perception

The teen-ager who conforms to his contemporaries' values as they pertain

to the arts may heighten or lessen his perception of aesthetic experience. His sensitivity toward rhythm and beat may be heightened if he values music and dancing and if he acquires audial skill. If "being in the know" about jazz is a value that he holds, he may begin to listen more acutely to jazz sounds and begin, through practice, to hear sound combinations that are completely new to him. Values, in this case, give impetus to an increase of perceptive ability. The man who looks at a great bridge and sees in it capitalistic enterprise or the toil of the working man experiences something quite different than the man who sees ribbons of steel glowing in the sun and the delicate reflections vibrating on the water. What we cherish often circumscribes our world.

Perception at the aesthetic level is pure perception, because nothing outside of the object itself is of primary consideration. The man who saw the tall building in terms of real estate values was seeing symbolically. He was viewing an object as a representation of another experience. The man who, on the other hand, was able to see the delicate and subtle configuration of light and shade, volume, plane, and color was seeing objects in their purest form — in their basic material relationship to each other and to nature.

Identical Experiences Produce Varying Reactions

The classroom teacher needs to be aware of the values that individual students hold in order to enable him to recognize how his students alter singular experiences. The child who perceives a Spanish galleon simply as a means of transportation will miss the aesthetic experience of seeing its massive and contoured form as it relates to the turbulent and threatening seas. Conversely, the youngster who values building experiences or model boats may see the Spanish ship structurally as something to be built or drawn. The child who needs to be concerned about having enough food to eat will perceive agricultural studies in a much different light than will the lad whose table is always plentiful.

Psychoanalytic theory has contributed to our understanding of perception. Parents who have books, paintings, and music in their homes, but who value these things mainly as symbols of culture and who foist these symbols upon their children, often get negative reactions from their progeny. The child senses the underlying motives in parental behavior. He senses the hypocrisy in his parents' verbalizations about the values of "art" and begins to adopt the parents' covert, real values rather than the superficial behavior that they display. The undercurrent of motive comes through to children and their values and their perception of life is often modeled after, but thankfully not molded upon, the image they have of their parents.

Individuals See What They Need to See

The individual's emotions also become a selective agent in perceptual experience. Alshuler and Hatwick's great study of nursery school children's paintings[2] indicates that the child's individual needs and his orientation towards life affect his artistic productions. His emotional wants direct his use of color and line and his organization of

[2]Alschuler, Rose and Hattwick, La Berta. *Painting and Personality*. 2 vols. Chicago, 1947.

space and mass. If the child's artistic expression is affected by his emotional needs, it would also seem plausible that his emotional needs affect his perception of what he experiences in nature. The individual's need to maintain his psychic equilibrium affects his perceptual process. The individual sees what he needs to see. Studies in both psychology and sociology have pointed out that a person's emotional predisposition towards a particular point of view, political or otherwise, colors his perception of certain material. It is possible that these same emotional factors act at a much more subtle level in allowing a person to see or not to see ordinary phenomena in life. If this be the case, then it behooves those concerned with education to find ways of identifying what the child perceives in his various educational experiences and how he perceives it. Quality research in this very important area is greatly needed.

Are Perceptual Abilities Limited in Individuals?

It is conceivable that an individual has a natural capacity, dictated by his emotional makeup, to experience certain phenomena more intensely than others. In the various art forms it is possible to identify artists who are strong in their use of specific aesthetic elements like color or melody, while being relatively weak in the use of other elements such as composition or harmony. If one can infer that expressive acts often reflect the expressor's perceptual experience, then much is to be learned about perception through the analysis of the product of artistic expression.

The artist's emotional makeup must help him single out, from a complex of experiences, that which is most keenly attune to his creative capacities. When he is able to do this, he is in an excellent position to develop his experience through his chosen medium for others to see or hear. The artist may experience sound, movement, light, color, texture, and taste, but his focus must be selective in terms of his creative medium. That is, he must find a focal point in one medium of artistic expression for his multiplicity of experience. Then he must concentrate to use that medium as a vehicle for the expression of general experience.

Emotions Both Screen And Translate Experience

The artist, it can be seen, perceives in two stages. First, he separates from general experience those phenomena to which he is emotionally most sensitive. Second, he translates those phenomena or aspects of his experience to an aesthetic experience through the medium in which he is most creative. Emotions, for the artist, then, may act both as a screen for experience, and as a translator of experience. It is quite conceivable that emotions act in precisely this way for the individual who attempts to perceive the result of the artist's creation.

The factors which limit perception in any area of experience, aesthetic or otherwise, seem to operate as more or less rigid determiners of the kind and extent of individual perceptive acts. Emotions both screen and translate experience. Values predispose us to certain kinds of perception and effectively preclude other kinds. The sum of individual experience and what has been "learned" from that experience determine how far and how acutely individual vision shall extend.

High School Reading Course For College-bound Students

Students Improve Comprehension, Rate, Critical Reading Ability

● *Frances Fitzgerald*

Public interest in education has increased dramatically during recent months. It seems wise to examine specific criticisms of education, with the intention of effecting improvements in our instructional program. A demand for additional guidance in reading comes from high-school graduates competing for admission to college. Professors complain that students are unable to master the subject matter of various fields because they lack proficiency in basic reading skills. Emphasis upon the desirability of developing our intellectual resources points up the need for guidance in reading and study habits to enable students to attain maximum efficiency in content areas. The demands of current life require thoughtful, critical, mature reading.

The purpose of this article is to describe a course in reading improvement in which third and fourth year high school students have been engaged. The course has constituted one aspect of the program of a reading clinic under the direction of the Bureau of Child Study of the Chicago Public Schools. The clinic is located in the Lindblom High School. The school has an enrollment of 2,700 students of the middle socio-economic class. Approximately 150 students have completed the course in reading improvement. They have been students of average or better than average intelligence who have maintained at least average grades in academic classes. Each student intends to continue his formal education in college.

No Credit Given For Reading Course

The program of the Lindblom High School includes college preparatory courses established for those students who have been recommended by the administrators and by the teachers in the content areas. The English C classes provide an accelerated program in English for students who have displayed ability in oral and written communication. Students enrolled in these classes are extended an opportunity to apply for admission to the Accelerated Reading Course. The course is scheduled during a lunch period, and no credit is given to the student.

The *Cooperative English Test C1: Reading Comprehension* is administered to students enrolled in the course. This test enables each student to compare his performance with that of other students of the same year in high school. A percentile rank is

determined in three areas of reading: vocabulary, speed of comprehension, and level of comprehension. The student is made aware of the level of his total reading performance and the area of reading upon which he needs to concentrate his efforts. If a student's performance ranks about the 90th percentile in total reading, or in level of comprehension, he is given a *C2* (Upper Level) *Co-operative English Test*. This test is prepared for students of higher reading ability and enables the student to compare his performance with that of freshmen in college. Even the best students are thus made aware of the possibility of further improvement in their reading.

Vocabulary Development Receives Major Attention

Test results indicate divergent needs, but most students obtain their lowest percentile rank in vocabulary. Several articles pertaining to the development of vocabulary are made available, and students are encouraged to find others in current literature and in textbooks. Discussion of the suggestions made by various authors results in the formulation of several generalizations. One group compiled the following:

> Vocabulary growth must be accompanied by increased knowledge and understanding.
>
> Experience promotes understanding. Excursions to museums, exhibits, and industries should be utilized.
>
> Interest in words is essential. New words and new uses of words should be noted.
>
> Wide reading provides vicarious experience and promotes knowledge of word meanings.
>
> A definite program, carried out faithfully and systematically, is essential.
>
> Prefixes, suffixes, and roots are valuable aids to the discovery of word meanings.
>
> The *use* of new words in oral and written communication is imperative.

Should high school students receive additional direct training in reading? This detailed report of a special, non-credit course designed to improve reading ability of high school students preparing for college indicates that such a course can produce impressive results. High school teachers and principals will be interested in the detailed report of techniques used in the course. Mrs. Frances Fitzgerald, teacher in the Bureau of Child Study of the Chicago Public Schools, participated as reading clinic teacher in this program at Lindblom High School.

Each student plans his own "campaign" for individual vocabulary growth, and the class agrees upon a program for group work. *Word Wealth*[1] is frequently used for home-study, and once a week exercises from this book are reviewed in class. The chairman for the day may employ contests, puzzles, games, a quiz program, an oral test, or have the group compose a paragraph or poem using selected words. Everyone in the group has the opportunity to preside over a vocabulary review, and each accepts the challenge to make the exercise an interesting one.

Thirty Days to a More Powerful Vocabulary[2] furnishes an additional source of words for discussion. Suggestions from this book are utilized and recommended by many of the students. Current copies of the *Reader's Digest* contain convenient vocabulary tests and provide the students with an opportunity to apply their skill in deriving word meanings through the use of context clues.

[1]By Ward S. Miller, Henry Holt and Company.

[2]Wilfred Funk and Norman Lewis, Pocket Books.

Words in Vocabulary Tests Frequently Unusual, Rare

Students frequently complain that the words found in such materials are not those contained in tests. An examination of various reading tests has revealed a large number of small, "old-fashioned" words that are probably familiar to only those who have read very widely of our literature. A list of such words is being compiled by the students.

The study of roots, suffixes, and prefixes provides the student with a valuable means of determining the meaning of unfamiliar words. Exercises pertaining to syllabication are found beneficial by some of the students. Various uses of the dictionary are illustrated during the progress of the course. Applying their knowledge of another language as an aid in determining word meanings has seemed helpful.

Some students keep personal notebooks in which they record words they wish to learn; others prefer to use file cards. A definition and an original sentence are composed for each word. The use of context clues as a means of determining word meanings is stressed; exercises provide practice in utilizing the author's aid in determining word meanings.

Students Practice Using New Words

The *use* of new words is emphasized, and students are encouraged to refer to their notebooks or file cards when writing a paper or preparing an oral report. They find it difficult to use uncommon words in conversation because of the ridicule such a practice provokes among their peers. Some come from homes where another language is spoken and only the most common English words are known. Sharing these problems seems to result in improved attitudes toward the situations.

The range of achievement in comprehension makes it necessary to employ materials of various levels. Usually the work begins with the reading of the introductory chapters in *College Reading*[3] and *The Art of Efficient Reading*[4]. The suggestions made by the authors of these manuals are compared and combined to clarify the objectives of the program. *Reading for Meaning*[5] Books 10, 11, and 12 are used by those who need materials of these levels. The students are encouraged to read a short selection, cover it, and work the comprehension exercise without referring to the article. A title and a main idea are selected; statements of fact are judged to agree with the article, disagree with it, or not to be included in it. An outline is completed by selecting appropriate facts, and conclusions are determined. The vocabulary section of an exercise is worked last, since one must refer back to the selection to match definitions with words underlined in the article. After completing an exercise students compare answers; each one endeavors to substantiate his judgment. When agreement has been reached the instructor checks the

[3]Marvin D. Glock, *The Improvement of College Reading* (New York: Houghton Mifflin Company, 1954). pp. 5-7.

[4]George D. Spache and Paul C. Berg, *The Art of Efficient Reading* (New York: The Macmillan Company, 1955). pp. 3-6.

[5]W. S. Guiler and J. R. Coleman, *Reading for Meaning Series,* (Chicago: J. B. Lippincott Company, 1955 *et seq*).

answers with the key. A grade score is detemined for each exercise. The student is encouraged to note the type of question in which his errors occur.

Instruction Individualized On Basis of Student Needs

Instruction is provided to help each student develop skill in the area of need. Some require assistance in forming generalizations, in remembering details, or in organizing ideas; but most students find the formation of conclusions the most difficult of the reading skills. Much practice is given, therefore, in making inferences from implied meanings. When a student demonstrates his ability to perform adequately at one reading level, he is encouraged to use materials of greater difficulty. Training himself to read a selection only once and to feel confident that he has obtained the information it contains is regarded as a very real accomplishment by each student.

The McCall-Crabbs *Standard Test Lessons in Reading, Book E* contains short selections and tests of comprehension. When employed with a three-minute time limit, these exercises are a valuable aid to concentration. To obtain a maximum score, a student must read the article and complete the test accurately within the three minutes. The answers frequently furnish material for animated discussions and enable various members of the group to become aware of specific problems. One boy finds he failed to read the question carefully; another didn't know the exact meaning of a particular word or failed to note an implication; another read too slowly and did not complete the test. Graded scores permit students to observe readily their improvement.

Students Concentrate On Developing Retention

Retention is another topic of vital interest to the members of this class. Techniques are described which may assist students to improve their ability to remember the information contained in the materials read. Discussion of these techniques results in some helpful sharing. Exercises designed to give practice in the application of these techniques are used. As each person completes such an exercise, he joins a buzz group of five or six students to discuss his answers. If any group fails to reach a decision, the question is thrown open to the class. Some excellent discussions have resulted from this type of situation.

One of the most popular of the articles in Glock's[6] manual concerns mental health. It never fails to stimulate active participation in the discussion of the concepts it presents. The students exchange accounts of experiences they have found helpful in developing interest, in budgeting time, or in overcoming the tendency to procrastinate. Mental fatigue, they admit, is frequently an indication of a lack of interest. Worries, they conclude, must be dealt with in an objective and constructive manner. Distractions can be minimized by obtaining family cooperation and scheduling study time after young children have retired. The role of social contacts is examined; a sense of humor is advocated as a means of combating fears and tensions. As they converse about these topics the students seem to guide one another toward the solution of personal problems.

[6]Glock, *op. cit.*, pp. 69-71.

Critical Reading Abilities A "Must" for Mature Readers

Articles requiring critical reading constitute a major portion of the reading materials of the course. The ability to interpret critically is a desirable outcome of a reading improvement course.

Students become aware that the intent of the author must be considered in reading advertisements, newspapers, magazine articles, and selections written by persons associated with some "cause." The ability to detect bias is cultivated. Techniques of propaganda are examined and illustrations are noted in articles read outside of class and in the commercials presented on radio and television. The students' ability to reason is exercised in evaluating the author's ideas, relating them to their own, and arriving at logical convictions. Discussion is employed extensively for, though it requires more time and permits coverage of fewer points, experience shows that it is more effective in stimulating thought.

In all the comprehension exercises of the course, emphasis is placed upon *thinking*. Reading improvement at this level is dependent upon the individual's ability to read with an alert mind, a mind that is not only interpreting the author's ideas but is actively forming associations, passing judgments.

Training in Adjusting Reading Rate Given

Reading rate is the area with which the individual is usually concerned when he enrolls in an advanced reading course. An effort is made to convince each student that an improvement in vocabulary and comprehension is of greater importance.

The student usually discovers that, as his vocabulary knowledge grows and his comprehension improves, his rate increases. The ability to adjust his rate to suit his purpose is developed. He is encouraged to survey the material to be read, formulate his purpose for reading it, and determine the approximate rate at which he can attain adequate performance. Materials containing numerous difficult concepts must be read in a thorough, intensive manner. An explanation of a scientific theory or of a mathematical formula must be read more slowly than the fiction used for recreational reading. A slow rate may be used if one wishes to appreciate the beauty of expression or to contemplate the inspiring thoughts in a piece of literature. Reading for appreciation or to encourage creative expression is not, therefore, conducive to speed. Practice is given in reading for various purposes, and a comprehension test suitable to each purpose is provided with every selection. Checking the rate and the test results helps the student to arrive at an understanding of the relationship between purpose and rate; it permits him to achieve a knowledge of the rate at which he can render his best performance with each type of reading material.

Accelerator, Tachistoscope Used In Speed Training

An *SRA Reading Rate Accelerator* is available and students may use it with comparatively easy fiction materials. They usually attain a rate of six hundred words per minute on the novels used for leisure reading. They are encouraged to concentrate upon *ideas* rather than words. The goal is to *look* and to *think* without vocalizing. A boy, who later became valedictorian of his class, attained a rate of one thousand words per minute and had

perfect scores on exercises testing his comprehension of the materials read.

A tachistoscope is used to improve visual perception. Tachistoscope training increases the span of perception and decreases the time of fixation. The student observes a growth in his ability to recognize digits flashed upon the screen; he is thus provided with concrete evidence that it is possible for him to train his mind to render a more desirable performance with what his vision presents to it. He becomes aware that he needs only a clue to obtain recognition if the word flashed upon the screen is one with which he is familiar, but even short words prove confusing if they are not well known. An additional argument in favor of vocabulary development is forcefully demonstrated through the use of the tachistoscope.

Urge to Increase Speed Increases Quantity of Reading

Their desire for an increased rate of reading is utilized to motivate wide reading among the members of the class. An informal method of noting the number of pages read in a half hour is advocated for recreational reading. This method provides a challenge and individuals begin to report that they have read a novel during a weekend. A friendly competition is soon in progress. Frequently conversations similar to the following one are noted in our records.

"The book we had to read for English was a big thick one, but it didn't bother me a bit."

"I used to dread reading a book like that, but now I get a kick out of it."

The texts used contain lists of suggested readings for background knowledge in various fields. It is rewarding to hear the students recommend to one another books from these lists. Their comments indicate that leisure reading is becoming a more dynamic force in their lives.

Improvement of Ability To Learn Through Reading

One of the aims of the course is to improve the student's ability to learn through reading. Selections are secured from various content fields to give the student practice in applying various techniques to the reading materials of different subjects. Planning a purpose and previewing the selection are techniques which may be utilized effectively in all types of reading. Students find that converting headings into questions and reading to determine the answers aids concentration. Self-recitation helps a student to clarify concepts and to discover what section of an assignment he has not understood, or has failed to recall. Making notes in his own words forces the reader to *think* about the ideas expressed and is, therefore, of greater value than the mere copying of an author's words. Systematic, periodic review promotes understanding and retention. The establishment of effective study skills

becomes an important function of the course; concrete suggestions for the development of interest, understanding, concentration, and retention are applied.

One of the outcomes of the course should be more adequate performance by the student in all content fields involving reading. Each student is alerted, therefore, to the need for selecting from the work of his regular classes opportunities to apply the skills and techniques advocated in the reading course. Students are usually made aware of the purpose for which an assignment is made, but they form the habit of observing the type of check the teacher employes to determine their comprehension. This information they use as a guide in their preparation.

Final Testing Reveals Some Spectacular Gains

Another form of the *Co-operative English Test* is administered to each student at the close of the semester. The results are discussed with each individual and a report of his work is placed in his cumulative folder. Some of the gains made by the student have been spectacular. A study of such cases has disclosed several common factors. Each of those who made great progress had been highly motivated, worked diligently outside of class, actively participated in group discussions, and had excellent reasoning ability. Verbal fluency seemed to be an influential factor, but to a much lesser degree than was reasoning ability. Those who made the least progress, according to test results, were found to be seniors who were actively engaged in co-curricular activities. Those who were employed, or were forced to devote extra time to class work to compensate for absence, made less apparent gain. A few students omitted vocabulary items on the final test because they recalled that a penalty was imposed for errors. The seeming lack of progress in these cases may be attributable to chance successes in the original test.

Those who have made the greatest gains in the vocabulary test scores have been students who have made some extraordinary effort to employ a large number of new words. One girl worked with a relative who felt that vocabulary development was essential for advancement in her career. They engaged in a "cultural campaign" in which they visited museums, industrial establishments, and exhibits. They selected radio and television programs of an educational nature. New words were typed on file cards with definitions and sentences. The partners reviewed their cards together at regular intervals.

Use of Words More Productive Than Doing Vocabulary Exercises

Several boys became anxious to "stump" one another and searched diligently for unfamiliar words. Their arguments about the meanings and uses of words frequently disturbed the girls who had elected to work individually on lists of words found in textbooks. Test results indicated that the boys, who had engaged in discussions and made definite attempts to use the words, had achieved greater growth in vocabulary than had the girls, who had industriously completed exercises.

Psychological features of the program are frequently interesting and notable. Anecdotal records contain comments that are indicative of progress made in the less tangible outcomes of the course.

One quiet lad had been amazed by the results of the initial test and expressed disbelief of the scores that disclosed an unsually fine vocabulary and excellent reasoning ability.

"I have only a G average," he confessed. Members of the group became aware of his prowess and began to draw upon his knowledge of word meanings. They were frequently influenced by his judgments. Eventually they began to question him about his lack of success in the regular classes. "You're too shy," they said. "You're good! Contribute!" It became evident that he was being forced to re-evaluate his self-appraisal. The success he was experiencing with the materials of a college level and the prestige he was achieving in the group proved to be dynamic. In May he burst into the classroom joyously waving his course book. He had been marked Superior in every subject.

Assurance In Reading Reduces Emotional Stress

Numerous statements found in the records refer to emotional factors. They indicate a definite decrease in the amount of tension involved in taking tests. "Tests don't bother me anymore," is an oft-repeated statement. Occasionally someone confides, "I began to worry. Then I remembered some of the things we'd decided to try. They really work!" A former student confessed, "I didn't realize how much I was getting out of that class. I keep remembering things we talked about, like thinking about something humorous when you're afraid."

The enthusiastic comments of students who have been aided by the course give assurance that it fulfills a real need for even our best high school students. Recently a boy was elected president of the school's honor society. The class sponsor commented upon the radical change in his marks during the last three semesters. He promptly attributed his success to the application of the reading skills he had acquired in the Reading Improvement Course. "I really learned how to study," he declared.

Students Enthusiastic In Praise of Course

A girl applied for admission to the course because her older brother asserted, "It's doing me more good in college than any high school course I had."

Two girls returned from college to announce that they were honor students. "If you ever want anyone to expound the value of that reading course, call on us," they said.

Another former student wrote, "Guess who made Phi Beta Kappa? I did!"

Frequently students report that their friends are enrolled in reading improvement courses in college. They must pay for the course and cannot carry a complete program of studies. "They are using the same books, and doing the same things we do," I am told.

One class staged a panel discussion for a meeting of the Parent Teacher Association. After explaining various features of the reading improvement course they requested questions from the audience. The questions and comments of the parents clearly indicated their realization of the importance of further instruction in reading for their teen-age children.

Total evaluation of the program, as well as of student growth, is an essential aspect of any program of improvement. The selection of valid criteria for such an evaluation presents a challenging problem.

Limitations of Program, Difficulty of Total Evaluation

Limitations of the program are evident. The Lindblom Reading Clinic is required to service two districts of the Chicago Public Schools. Part of the time schedule is reserved for high school students in need of clinical help in reading. Approximately half of the daily program involves elementary school pupils referred by psychologists. Only one period a day is allotted to the accelerated reading program for gifted students. Those who enroll in the class are usually carrying full programs and sacrifice their lunch periods to take the course. They eat as they read, but a certain amount of delay and confusion cannot be avoided. No credit is given for the course, so there is a tendency for students to request to be excused from this class to take make-up tests, or to perform some service for the school. Only sixteen students are enrolled each semester. These limitations of time, space, number of students involved, lack of credit, and lunch-period scheduling are serious deficiencies in the program.

Evaluation of student achievement has been made only in terms of test results at the completion of the course. No systematic follow-up has been conducted to determine the relationship between improved reading and success in regular class work. Obstacles to such a follow-up are numerous and challenging. A control group would be difficult to establish because the students in the school select widely diversified programs. Students who have taken the course are attending many different colleges.

Broader Use of High School Reading Course Urged

Emphasis in this course has been placed upon the giving of assistance to those who intend to continue their education in college. Reading competency is essential to all. Every student should be given training to enable him to read as well as his mental ability and his achievement in other areas indicate is possible.

Reading must contribute to broad understanding, to rational attitudes, to personal-social adjustment, to scholastic progress, and to enriched and stable personalities. The course described in this article attempts to achieve these objectives. Such a course should be made a part of the regular high school curriculum to help each student develop functional reading skills, mature reading habits, and positive attitudes toward reading.

Reading books is getting at minds between covers.
— *Pearl Buck*

Teaching Space-Age Science to Children

Is the Content of Our Science Courses Up-to-Date?

• *William I. Harber*

In a short monograph, *Man in Space: A Tool and Program for the Study of Social Change*[1] there is a contribution by Lawrence K. Frank entitled "Cultural Implications of Man in Space." Mr. Frank says, among other things, "Ordinarily the teaching of physics, chemistry and mathematics is limited to the classic framework, the ideas developed prior to 1900, with the result that the younger members of society learn of the new climate of opinion from comics, science fiction, TV, movies and other informal sources." He goes on to say that "an introduction to MIS (Man in Space) may be more feasible in nursery school than in elementary grades."

My first reaction on reading this statement was that Mr. Frank was pulling the reader's leg. But after a careful rereading I began to sense his meaning.

As a teacher of physical science in the junior college, I had been puzzled from time to time by the following phenomenon. Affable students would bring articles and clippings on scientific matters to my desk and leave them with the earnest suggestion that I read them. Even though I had frequently seen or read the particular item a student brought, I thanked each student warmly for his thoughtfulness.

Students Interested In Recent Developments

What I didn't understand for some time, longer than I care to admit, was why such bearers of reading material were so obviously trying not to give offense as they laid the magazine or clipping down. I think, in part, they were trying to bring me up to date on some topics, so that I wouldn't be so far behind the times when the next semester came around.

[1]Annals of the New York Academy of Sciences, Vol 72 (New York, 1958), pp. 165-214.

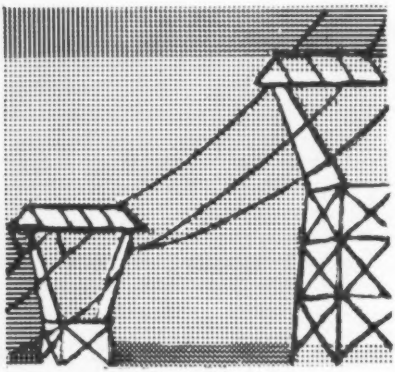
Is all this "new" science too difficult for all but the college specialist? The author of this article would say emphatically not. Indeed, he maintains, our students are oriented to and better motivated for space age physical science than they are for the world of inclined planes and pulleys. Our colleges, our high schools, and even our elementary schools should recognize this and take a long, careful look at present emphases in our science classes. Dr. Harber teaches physical science at the Wilson Branch of Chicago City Junior College.

At the same time they were considerately trying to avoid any suggestion, other than the implied one, that their teacher was unfamiliar with twentieth century developments in science. It is a tribute to their scientific acumen that such a judgment was amply supported by the only evidence upon which a hypothesis could be formulated — the content of their course — and a tribute to their human acumen that they realized that, although the poor fellow obviously needed help, it would be best to render it diffidently and as if by accident, lest his pride be wounded.

Do Students Know The Earth Is Round?

Let us take a look at one of the major areas we cover in our physical science survey course — astronomy. During the last decade that I have taught this subject, I have started out with this bombshell: "Is the earth really round?" The syllabus which I have used for the course furnishes such exciting bits of information as the fact that ships disappear over the horizon bottom first and the fact that you see more the higher up you go.

While I am explaining to the class how back in B. C. old Eratosthenes figured out the circumference of the earth in "stadia," my audience is quietly dividing up into two major camps: (1) those students who knew that this had to be a dull course, else why would it be required, and (2) those students who are wondering whether their teacher is an unreconstructed bird-watcher who has been impressed into the teaching of physical science because of the shortage of scientists. It is the students in this latter group who, I believe, begin to feel sorry for the instructor, and commence to slip him "hot" items in the sciences from press and periodical.



College Courses Include Twentieth Century Concepts

I am happy to say that in recent years college instructors, aware of the inadequacy of the Newton-Galileo kind of course for present-day science are contemplating revamping some of their course content. The new texts deal at length with twentieth century developments. At least if such a text were employed together with lecture-demonstrations which took cognizance of more than the most traditional and elementary physical concepts, students would not feel it incumbent upon them to bring me articles on solar batteries after a discussion on the voltaic cell, clippings on solar furnaces after a lecture on the steam engine, and items on radio telescopes after examining and discussing the operation of the crystal set.

But this is science at the college level. How does it fare in the high schools? Examination of the equipment catalogues shows that the laboratory supply houses are still vending the same apparatus that was in use twenty-

five years ago. In fact, since this equipment is sturdily built, much of it in use *is* twenty-five years old. Physics teachers are famous for the extreme care with which they handle and maintain their equipment. The result is that many laboratories are well stocked with equipment designed to teach a science which has experienced only a small portion of the impact of twentieth century theory and experiment, and only partially or not at all supplied with equipment for demonstrating or experimenting with post-Newtonian concepts.

What do the experiments largely center around? Usually they deal with the great classic works of the seventeenth and eighteenth centuries. Not that Galileo's gravitational constant and Archimedes' principle are unimportant, but where do such limitations leave the student? Mainly, he comes to rest at the beginning of the twentieth century, when Messrs. Planck, Einstein, and Bohr began to take up the slack in the physical sciences and created a new approach to time, matter, and space.

"Classical" Approaches May Diminish Enthusiasm

The preceding comments are not at all intended to denigrate the high school physics teacher. He is no more nor less the victim of the cultural lag which has weakened science instruction than is the college teacher. One of the first experiments in many college physics courses is designed to teach the student to use measuring instruments such as calipers and micrometers. Such an approach to the thrilling and compelling world of time, space, and matter not only makes the student's entry into that world dull, plodding, and perhaps distasteful, but does not even concede that an eighteen-year-old can measure! This conviction that eighteen-year-olds can't measure is frequently shared by college chemistry courses. The college chemistry student sometimes—you may not believe this—also starts the course with an experiment in measuring but on an even cruder scale. The student works with a meter stick!

If the student had some idea before he came to college that he was capable of measuring objects or spaces, he is soon disburdened of this belief.

Is Elementary Science Up-to-date?

Much of the kind of procedure for instruction in science which I have so far described is, fortunately, in the process of disappearing from high school and college classrooms. But a peculiar problem faces the college teacher and frequently the high school teacher. This is the fact that elementary school science instruction, insofar as it deals with the physical sciences, tends to approach them largely in the classical manner.

A first reaction to the suggestion that it would be appropriate in the elementary school to talk about mass-energy relationships, curved space, and the expanding universe might well be one of angry rejection or at least of extreme doubt. Is it really possible to utilize *all* we know about the physical world in teaching elementary science? The answer is of course it is. The view of the world which is implicit in pre-twentieth century science is no less strange to the young child than the view which recent scientific developments demonstrate to be more accurate. Young children adopt new frames of reference much more readily than do older ones.

If, in the elementary grades, the child is exposed only or even mainly to the classical kind of science, he will have to wait until high school to transcend the limitations of the pre-quantum picture of the world. If we serve him the classical approach in high school, then it is left to the college to re-orient him.

We Must Start Space Science Early

In general, the longer the child lives with the classical view, the more difficult it becomes for him to make any change. College teachers frequently wonder why students don't become excited by new ideas which are presented in the college classroom. The answer is that the students figure that, if they have gotten along this well with, for example, a classical science framework, why throw it aside for views and insights which are much more complicated and not at first glance obviously more rewarding? At eighteen, a student has the world and its inhabitants pretty well figured out.

I think that Mr. Frank is right. We cannot begin too soon to deal with and teach science of the space age. We cannot go quite so far back to begin as Mr. Frank suggests, since the Chicago school system, for better or for worse, has no nursery schools. But we can, and I think we should, begin as early as we are able to teach our students a science which deals with mass-energy relationships instead of inclined planes, with curved space instead of pinholes in black construction paper, and with an expanding universe instead of a round world. These students live in a world in which astronauts are training for other worlds. We should not circumscribe them within the narrower horizons of our own childhood.

Since science is knowledge and understanding of nature, it is an essential part of our total knowledge and therefore claims an important place in our general education. We cannot all be scientists, nor should we want to be; but we may, at least, develop an appreciation of science, just as we do of music or the arts, through some knowledge of its facts, objectives and methods.*

— Paul E. Klopsteg

*From an article to appear in next month's *Schools Journal.*

Building a Basic Understanding of Fractions

Manipulative Experiences, Reteaching Found Valuable

● *Eleanor Koterski*

Upper grade teachers frequently complain that children in the middle grade arithmetic classes are exposed to fractions but do not really learn them. Because of the difficulties inherent in unlearning wrong ideas, it is apparent that a great deal of attention must be paid in these middle grades to seeing that children acquire an accurate understanding of basic concepts concerning fractions.

If my fifth graders are any criterion, it would appear that sound understandings about fractions come about best through (1) more extensive use of concrete materials, (2) frequent testing to check which generalizations are not yet understood, and (3) a careful re-teaching of those still to be mastered.

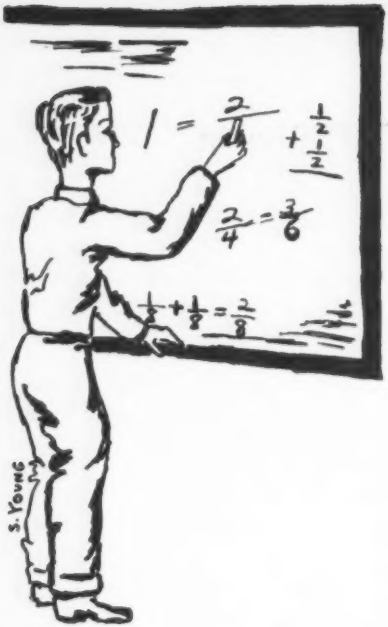
The procedures involved in this three-way approach are explained below in the hope that other fifth grade classes may find them useful.

I introduced my unit in fractions through the use of the ruler and the yardstick. A class discussion and review were held regarding facts with which the children were familiar. One-half of the foot ruler was six inches, one-fourth of the foot ruler was three inches, and so on. The yardstick was compared with the twelve-inch ruler and the fractional equivalents were discussed. Through discussion, manipulation, and comparison, the class was led to re-discover that when the ruler was divided into thirds, halves, or fourths, each of the divisions were equal. Thus, when we had a fractional division of something, the parts must be equal in size.

Specialized Vocabulary Must Be Understood

Learning vocabulary is one of the most important steps in building good understandings in any phase of arithmetic. It is helpful for children to label all parts of a problem whether it be in addition, multiplication, division, or subtraction. The child cannot understand the reduction of fractions unless he is

Unlike many other how-to-teach-it articles, this one recognizes that going through steps one through ten doesn't mean that pupils will automatically understand and absorb what has been covered. In her presentation of this practical way to teach fractions to fifth graders, Mrs. Koterski indicates where some of her pupils fell by the wayside and tells in detail how she managed to clear up their difficulties. Mrs. Koterski teaches at the Brentano school.



certain of which number is the numerator, which is the denominator, and what each of these terms means. Therefore, after our discussion of the ruler and the yardstick, the terms of the fractional parts of the ruler were labeled and discussed. The children were responsible for learning the definitions and the spellings of the terms of the fraction.

The Steck[1] flash cards showing circles, squares, and rectangles in various fractional divisions were passed out to the children. They were asked to tell into how many equal parts an object was divided. What is the fractional equivalent of the whole? What fractional part is shaded? What fractional part is not shaded? In the fraction 5/6 what does the number 5 mean? Write its name on the board. What does the 6 tell? What do we call the terms of the fraction? Drills such as these were initiated at this point in our study and continued throughout the unit.

Traditional "Pies" Prove Useful

To emphasize and extend the concept of the equality of fractional parts and to establish a foundation for the arithmetical processes in fractions, the class then turned to making the traditional "pies."

Our pies were cut into a whole, halves, fourths, eighths, thirds, and sixths. Each child in the class cut, compared, and manipulated the fractional parts before they were pasted down and their stories written out. The two halves were placed upon the whole circle to prove that two halves equal one whole. One-fourth was placed upon the one-half to prove that one-fourth was less than one-half. After comparing halves, fourths, and eighths, one child volunteered the rule that the larger the denominator the smaller the piece of pie. In my classroom this rule has since been named "Judy's Rule," for the girl who gave it.

As the facts about the pies were discovered, both vertical and horizontal presentations of the algorisms or arithmetical methods of writing fractions, were made to familiarize the children with both forms.

The manipulation of the pieces of pie served to reinforce the idea of the equality of fractional parts. When the children handled one-eighth of a pie, they were led to understand that they were handling one of eight equal parts of that pie.

[1]Building the Meaning of Fractions, Sets I and II. Steck Company, Austin, Texas.

The Concept of Sameness In Fractions

As soon as our manipulation of circles began, it was also necessary to illustrate the importance of sameness in addition and subtraction of fractions. Several problems were placed upon the board. Twenty-three marbles plus seventeen marbles yielded a sum of forty MARBLES. When pencils were subtracted from pencils, the difference again had to be in terms of pencils. When dollars were added or subtracted from dollars, the answer had to be in terms of dollars. Therefore, when adding one-fourth and one-fourth the answer must be two-fourths not just two.

The children were told that, for the present, the denominator must be the same in the addition and subtraction of fractions because only like things could be added and subtracted. When reading a fraction, when doing an addition or subtraction problem, it was always necessary to give both terms of the fraction.

The pies enabled the class to build a chart of equivalents which was used to introduce and develop the reducing and raising of fractions. When through their manipulations the children discovered that 2/4 equal 1/2, 3/6 equal 1/2, and that 2/6 equal 1/3, these facts were entered on our chart.

First Quiz Reveals Some Weaknesses

At this point a quiz was given to the class in order to evaluate (1) knowledge of the terms of a fraction including definition and spelling, (2) understanding of fractional equivalents as revealed by our manipulation of circles, and (3) the concept of the relative size of fractional parts.

The test revealed that one-third of the students were unable to properly define, identify, or spell the terms of the fraction. Further, although they were aware of such fractional equivalents as 1/2 and 4/8, and 1/3 and 2/6, 2/4 and 1/2, they had not yet grasped the equality of 4/4 and 8/8. While only three of the students made errors on the first set of equivalents, one-fourth of the group of thirty-two students erred on the second set.

The children did understand the relative size of fractional parts. They had correctly selected the largest fractional part when asked which was larger, 1/2 or 1/4, 1/3 or 1/6, 4/5 or 4/6.

Meaningful Reteaching Is Necessary

Obviously, then, more discussion of the meanings of the terms of the fraction was necessary. Short exercises identifying numerator and denominator of fractions on flash cards, questions on the meanings of terms, illustrations on the flannel boards and fraction board, and materials from the text were used to strengthen the ability of the children to understand and interpret the meanings of *numerator* and *denominator*.

In an attempt to strengthen the concept that 3/3, 6/6, 2/2, 5/5 are equal to a whole, two short exercises were prepared and used. The children were given fraction cards marked 1/2, 1/3, 1/12, and so on and asked to get enough of these cards to equal one whole. The one whole card was placed on the fraction board. After each child had selected the number of additional fraction cards he thought were needed to equal

one whole, he was asked to place them on the board beneath the one whole card to prove his answer. Thus, when one child selected only three cards marked 1/4, he could see that three 1/4 cards did not equal the one whole card and he had to seek another card.

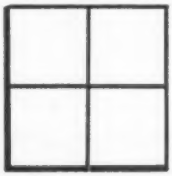
In another short exercise using the flannel board, the class was asked to find the missing part. A portion of a figure appeared on the board and the children selected the part or parts required to make one whole. The results of the manipulation were written on the chalkboard.

Additional Problems Arise

As our work with fractions progressed, several problems presented themselves. Since the children occasionally forgot that fractional parts were equal in size, these illustrations were placed on the board.

The ensuing discussion pointed out that objects might be divided in many ways, but that only when there was an equality of parts were those parts considered fractional parts.

Another question that arose was the division of the square into fourths. Illustrations in our text and those presented in the class had apparently built a faulty concept. The children considered a square divided into fourths only when divided in this manner:



Paper was passed to the children and they were asked to fold and cut a four inch square into four equal parts in another way. These variations appeared along with the one with which the children were familiar:

Thus they were led to see that one-fourth of a square might appear in various forms yet it was always one of four similarly-shaped, equal parts.

With each phase of the work, the class was given practice in problem solving. In our text[2] there appear two pages of problems on fractional parts of a *group*. The first problem presented illustrates a group of birds, some on a tree, some on the ground, and some in flight. The problem asks the fractional part of the birds in each of the positions. This problem offered no difficulty as everyone answered correctly and promptly and no important question of understanding arose. The next problem, however, presented a group of ten books, *of different sizes,* with three of the books shaded black. The questions were posed:

> How many books are there in this picture? What fraction tells what part of the books have dark covers? What fraction tells what part do not have dark covers?

Although some children were able to understand the fractional division of these books, one-half of the class either was unable to answer the questions regarding the books or had made a good guess but admitted that they did not understand.

[2]Morton, Robert L., Gray, Merle., Springstum, Elizabeth, Schaaf, William L., *Making Sure of Arithmetic, Grade Five,* pp. 182.

Teaching Concept of Unlike Units in Groups

The children could not understand how the books depicted could be considered fractions since they were not equal in size. We illustrated by using the books on my desk, stating that when we take a fractional part of a *group* of units (rather than a single whole) each unit represents an equal part of the total group of units even though each unit might not be equal to all others in size. Each of the sixteen books on the desk was considered 1/16 of the group despite its size, thickness, or color.

Doubt still existed. To clarify the matter further, four children (two boys and two girls) were asked to come to the front of the room. Another child was asked to tap 3/4 of the children in that group. He tapped three of the children. It was pointed out that the three children he tapped were not equal or exactly the same in size, weight, coloring and yet we considered each child as 1/4 or one of four equal parts of the group.

Pencils of varying sizes were separated into fractional groups. There again, stubs and new pencils were each considered equal units within the group. Marbles of different sizes and colors were separated. Eight marbles were placed on the desk. A child was asked to pick 3/8 of them. The boulders and the smaller sized mibs again were each considered one equal unit within the group of marbles.

Introducing Proper And Improper Fractions

The proper and improper fraction were introduced through the use of the flannel board. Three-fourths was shown on one side of the board and six-fourths (arranged in the form of one whole and 1/2 of a whole) on the opposite side. The words proper and improper were written on the chalkboard. The children decided that probably the fraction that was less than a whole was "proper" and the fraction 6/4 was improper. When these two fractions were written on the board, the children were led to observe that if a fraction is proper it is less than a whole and that the numerator is less than the denominator. They decided that fractions equaling more than a whole were improper.

The most difficult concept to build was that 4/4, 6/6 were improper fractions. The children easily classified those fractions that were definitely less than a whole and those that were definitely more than a whole, but those that were exactly one whole seemed to offer difficulty. The children practiced identifying proper and improper fractions from flash cards, from the flannel board, and the text. What kind of a fraction is this? Why is it that kind of a fraction? Why is the numerator less (or greater) than the denominator? What does it tell us?

The second quiz on fractions revealed great improvement in understanding of the terms of the fraction. The largest incidence of errors was in the part which tested understanding of proper and improper fractions. One-half of the students made at least one error in a group of ten fractions given. The need for clarification, review and further illustrations and manipulations of proper and improper fractions was evident. Each day thereafter a short

exercise of three or four fractions was given and the children were asked to show by illustration and statement whether the fraction was proper or improper.

Reducing Fractions Easy to Teach

The reduction of fractions was not difficult to present since the children were already acquainted with fractional equivalents through our chart developed from manipulation of the pies. The class was well aware that 3/6, 4/8, 6/12 equaled 1/2. When a list of these equivalents was first placed on the board, the children were unable to discover how these equivalents could be obtained mathematically. However, after working with fractional parts for about two weeks, a child was able to give the rule that numerator and denominator were divided by the same number.

To show the reduction of fractions, concrete materials (pies) were manipulated, then symbolic materials were used, and finally the algorism or mathematical statement was presented. When the class first started using the algorism, they returned briefly to the concrete symbols to prove their answers. The children were asked to prove on the fraction board that 3/12 reduced to 1/4 by using the fraction cards. The same was done in teaching the raising of fractions. If you had 1/4, how many sixteenths would you have? When the answer was given, the children were asked to prove it with the fraction cards.

When raising or reducing any fraction, the class was asked to show in parentheses the number by which the numerator and the denominator have been multiplied or divided:

$$\frac{4\ (\div 4)}{12\ (\div 4)} = 1/3 \qquad \frac{1\ (\times 2)}{2\ (\times 2)} = 2/4$$

The more capable arithmetic students did not need this step, but it is felt that most of the class will benefit from the procedure since it reinforces the idea that *both* terms of the fraction must be multiplied or divided by the same number. This crutch will be done away with when the class shows understanding and ability to successfully reduce and raise fractions.

Raising Fractions Harder to Grasp

The exercises in reducing and raising fractions revealed that the child who made an error in reducing fractions often made errors in raising fractions. If he succeeded in one process, his understanding seemed to involve the other process also.

Another quiz showed that the class apparently understood the reduction of fractions better than the raising of fractions. The largest percentage of errors occured when, given a denominator, the children failed to multiply both terms of the fraction by the same number. The chart on fractional equivalents was a more effective aid in teaching the reducing of fractions than the raising of fractions. The raising of fractions is a more difficult process since it involves a division and a multiplication process.

The reduction of improper fractions was concretely presented through the use of our pies. If you have 9/3, how many whole pies do you have? Children with better insight immediately said if one pie is 3/3 then two pies are 6/3 and three pies are 9/3. The an-

swer was proven with the pieces of pie. A symbolic illustration of a rectangle presenting 6/4 was shown. When we have 6/4, how many wholes do we have? How much is left over? What does 2/4 equal? When we reduce 6/4 what do we really have? Some students deduced that 4/4 were equal to one whole and so you had one whole and two fourths left over.

It was necessary for the teacher to tell the class that the line used in fractions showed ratio and a division. To reduce an improper fraction, the numerator had to be divided by the denominator.

The children were asked to illustrate the reduction of the improper fraction. The division of the numerator by the denominator must be shown. This crutch too is eliminated when the procedure has been firmly established. When a child stops indicating the divisions and obtains the correct solution, he is not asked to show his work.

Manipulative Experience Proves to Be Useful

The arithmetical processes of addition and subtraction of fractions seemed relatively simple to the children. The amount of manipulative and symbolic materials presented had apparently built a good understanding and background for the children. They had added and subtracted fractions in their manipulation of pies, on the flannel board, and on the fraction board. Exercises similar to this illustration had been worked out by the children daily:

> Draw a rectangle four inches long. Divide it into four equal parts. Shade three parts of the rectangle. Write the complete story of the rectangle. Make up as many problems as you can about it.
>
> $1/4 + 1/4 + 1/4 + 1/4 = 4/4$ or 1 whole rectangle
>
> $4/4 - 3/4 = 1/4$ not shaded
>
> $4/4 - 1/4 = 3/4$ shaded
>
> 3/4 shaded + 1/4 unshaded = 4/4 or 1 whole rectangle

Although the concrete and manipulative materials used in the teaching of fractions seemed to be time consuming, the results were worthwhile and gratifying. The flannel board and the fraction chart have been invaluable aids in building good understandings and concepts in fractions. The children not only understand their work with fractions, but because of this understanding, they enjoyed the unit, and, it is hoped, have acquired a valid set of generalizations which will continue to serve them well.

Mathematics takes us into the region of absolute necessity, to which not only the actual world, but every possible world, must conform.

— *Bertrand Russell*

News in Education

● *Edited by George J. Steiner*
Chicago Teachers College

Language Requirements Added at State University

Students entering the College of Liberal Arts and Sciences and curricula in art and music in the College of Fine and Applied Arts of the University of Illinois will be required to have two years of high school study in a foreign language effective September, 1964, President David D. Henry announced recently.

The change was made by the board of trustees, who rescinded an action of April 25, 1940, which waived the normal foreign language requirement for admission to these two colleges for students who were graduated in the upper half of their classes. When the new rule becomes active, only students coming from high schools which do not offer foreign languages will be exempted.

The trustee action indicated that the change was justified on several bases: the prospective increase in applications for admission will make desirable greater selectivity in admission; as with mathematics, the high schools should relieve the university as much as possible of elementary level instruction and the trend in the distribution of the educational load in both liberal arts and sciences and in fine and applied arts should be toward greater emphasis upon advanced undergraduate and graduate instruction, with less staff time being given to high school and junior college subjects.

The foreign language requirement for admission to these two colleges will be fulfilled by two units of any foreign language in which the university offers instruction. Currently, these are French, German, Greek, Italian, Latin, Portugese, Russian, and Spanish. The trustees recently approved also a graduate program in Russian leading to the master of arts degree.

Improving Visual Teaching Techniques

Foundation of a school to improve teaching techniques by integrating them with television, films, and radio was announced recently. To be known as the Learning Research Institute, it will operate as a nonprofit corporation headed by Dr. John E. Ivey, Jr., former executive vice-president of New York University.

The institute currently runs Continental Classroom, a program of col-

lege courses over the National Broadcasting Company's television network. It is negotiating for land in Princeton, New Jersey, and hopes to break ground for the school within the next two years.

In explaining the purpose of the institute, Ivey said that under guidance of the classroom teacher, the student can learn in a new environment aided by the work of the nation's great teachers on television, learning machines, records, tapes and other technological developments. He said that the institute believes that only by looking at these and other media in patterns of systems of use for the school or college can their full value to education be realized. Techniques developed by the institute will help under-developed countries seeking to break through the illiteracy barrier.

Among the institute's directors are Benjamin C. Willis, Chicago school superintendent; James E. Allen Jr., New York State commissioner of education; Milton S. Eisenhower, president of Johns Hopkins University; Samuel M. Brownell, former U. S. commissioner of education; and Oliver C. Carmichael, board chairman and former president of the university of Alabama.

Continental Classroom now presents advanced physics and chemistry courses. During the next five years the institute plans fifteen televised courses which it believes will make up the basic core of a liberal arts curriculum. The institute also is helping to develop the program of airborne telecasts in the midwest. Eventually the airborne program hopes to telecast 72 full-year courses to 13,000 schools and colleges in Illinois, Indiana, Kentucky, Michigan, Wisconsin, and Ohio, with an estimated 5,000,000 students.

Others members of the institute board include Palmer Hoyt, publisher of the Denver Post; Clay P. Bedford, president of Kaiser Electronics Corporation; Bruce Miller, Riverside (Calif.) superintendent of schools; E. Alton Partridge, president of Montclair (N. J.) State Teachers College; and Herman B. Wells, president of Indiana University.

The Past Decade In Retrospect

Looking back at the 1950's, a decade of growth, change, and reassessment, we find that the gross national income rose from $285 billion in 1950 to nearly $500 billion (1959); school expenses rose from $5 billion to $15 billion; and enrollment rose 47% in the ten years. It was also the decade during which a metal sphere hurled into space from a Russian steppe convulsed American education.

As seen by the editorial staff of the Educational Press Association, the major events of each of the first nine years were:

1950: The Kellogg Foundation launched a multimillion dollar effort to improve the the quality of administration in public schools.

1951: West Point expelled ninety cadets accused of cheating in examinations.

1952: The Federal Communications Commission reserved 242 TV channels for exclusive use by schools, colleges, and other educational agencies.

1953: Congress created the Department of Health, Education, and Welfare.

1954: The United States Supreme Court outlawed racial segregation in public schools.

1955: Two thousand delegates assembled in Washington for the White House Conference on Education, the first such meeting in the history of the United States.

1956: The Committee for the White House Conference on Education sent its report to the President. One recommenda-

tion: expenditures for education must be doubled in the next ten years.

1957: President Eisenhower ordered federal troops to Little Rock to enforce the authority of the federal courts.

1958: Congress passed the National Defense Education Act.

Ten Top Educational Events of 1959

The ten major educational events of 1959 as selected by Educational Press Association editor Ben Brodinsky are listed below.

1. The National Defense Education Act completed its first year of operations. Some 115 million dollars were distributed during the first year. The money was used to help state and local education re-examine and begin improvements in science, mathematics, visual aids, technical education, and the preparation of statistics. For the year 1959-60, Congress voted $150 million.

2. Federal courts found unconstitutional Virginia's massive resistance laws against integration. This event brought to a climax one state's legal efforts to oppose the Supreme Court's decision of 1954. Those in favor of integration regarded it as a victory for their point of view. They also found comfort in the successful desegregation policies practiced in Baltimore, Wilmington, St. Louis, Kansas City, and Washington, D. C., to mention a few of the so-called border communities where integration was accepted.

3. Prince Edward County, Virginia, abandoned its entire public school system rather than permit racially mixed classes. This was the most dramatic example of resistance to integration. There was less violence this year than in 1958 in Southern communities growing out of efforts to integrate public schools.

4. The automatic teaching machine went into commercial production. On Labor Day, 1959, Dr. B. F. Skinner, Harvard, displayed his teaching machine before the American Psychological Association convention in Cincinnati. That date marks the introduction of what has been called self-instruction or programmed teaching. At least three manufacturers have produced a number of models, not only of Dr. Skinner's device but of several other automatic teaching instruments. The role of automatic teaching in America's schools is the subject of vigorous disussion and research.

5. James B. Conant issued his report on "The American High School Today." One remarkable thing is that the report expressed general satisfaction with the American high school at the time when some critics went so far as to brand it "the graveyard of American greatness." Among other things, Dr. Conant recommended abolition of the small high school, lengthening the school day, improvement of guidance, more attention to the gifted, and expansion of foreign language instruction.

6. The Ford Foundation emerged as a major force for the redirection of American education. The Foundation allocated sixteen million dollars in 1959 to explore new ways to educate teachers. One of its affiliates, the Fund for the Advancement of Education, reported an expenditure of another $12,200,000 to support experiments in new uses of TV for education, better utilization of staff, new designs for school plants, and new ways to teach able students. Ford Foundation dollars were behind such diverse activities as helping the Connecticut State Board of Education restate the role of public schools and helping the Catholic School Board of the Archdiocese of St. Louis with serving better its able students.

7. The U. S. Office of Education issued "Soviet Commitment to Education," a report of the first official U. S. Education mission to the USSR. This is a formal recounting of the Soviet experience with education as seen by American government officials. The report was one of the many reminders that the Russians have a passion for education and that Americans have too long ignored Russian educational and cultural achievements.

8. The National Education Association published a two-volume report on delinquent behavior — its causes and possible steps for cure. The reports stemmed from the findings of the Juvenile Delinquency Project, financed by the NEA and conducted under the direction of William C. Kvaraceus, Boston University. They were released at an opportune time when many communities in the nation were struggling to combat a rising tide of youth crime.

9. Educators observed John Dewey's one hundredth birthday anniversary. This controversial philosopher's influence on the educational system of the United States has fluctuated—the present time being one of its low points. But while Deweyism has never been as strong as his critics would have one believe, neither has its influence dwindled substantially.

10. Fire protection officials reported that 53,000 public school buildings across the nation have been inspected to correct major and minor fire hazards. The National Fire Protection Association reported on December 1, 1959, that during the year America's schools carried on the most intensive fire safety campaign ever attempted in our history. This activity was a direct result of the fire which killed 95 students and teachers of Chicago's Our Lady of the Angels School late in 1958.

Offer Graduate Level Teacher-Training Program

The University of Chicago is starting a graduate teacher-training program which it hopes will turn out teachers strongly grounded in both subject matter and classroom experience.

The new two-year course for graduate students is scheduled to receive its first students in the summer or fall. It will deemphasize classes in educational methods, retaining only what is needed for teacher certification. In announcing the program to educate high school teachers, Francis S. Chase, dean of the university's Graduate School of Education, said that it is unique when both its emphasis and organization are considered.

Some schools are giving prospective teachers more on-the-job training to the point where this is now a considerable movement. The second year of the Chicago sequence will be taken up almost entirely by teaching residency in a public school. The student teacher is to be paid, and in general treated, as a working teacher.

However, the emphasis that will be put on acquiring subject matter knowledge in the first year goes beyond anything known of in teacher preparation elsewhere. Studying under professors from throughout the university faculty, the teachers-in-training will devote most of their first year to graduate work in the subjects they intend to to teach. In each of the ten or twelve fields that will be offered, a committee of specialists in the subject will oversee the courses.

Graduates will receive a Master of Arts degree in Teaching with the teaching field specified. They can expect to start teaching at a second-year pay level. Students need not have taken any education courses as undergraduates to qualify for this program.

Note Boom In Junior Colleges

Junior colleges are flourishing as never before. Twenty-five years ago, according to *Architectural Forum,* there were 500 junior colleges in the United States, most of them private, with a total enrollment of 100,000. Today there are 667 junior colleges with 900,000 students, and enrollments are growing at a fantastic rate.

These two-year schools will be needed badly since in 1965 an estimated five million boys and girls (sixty per cent of all high school graduates) will be seeking to further their education at some kind of college. In attempting to find ways to meet this demand for more learning, educators look upon the junior colleges as a godsend. A particularly encouraging development is the explosive growth of community colleges, junior colleges tailored to the needs of specific communities.

The junior college offers at least three things which other educational institutions do not: two years of low-cost education after high school; a two-year period in which a student may decide whether or not to go on to a full-fledged college education; and facilities for adult education on a scale never before available in most of the nation's communities.

The junior college movement has spread rapidly through the western states with California alone having an enrollment of 400,000 students last year. The $250 million bond issue voted for education in New York State in 1958 will be used largely for the creation of junior colleges; similar programs are under way in Illinois, Florida, Maryland, South Carolina, and other states.

How important a tool the junior college may become was suggested by President Eisenhower during a recent discussion on education when he stated the possibility that every young American might attend a "local free system" of schools for at least one or two years after graduating from high school. If this becomes a reality, the junior college will become the largest and possibly the most important institution of higher education in the country.

North Central Association Talented Student Program

The North Central Association of Colleges and Secondary Schools has received a $150,000 grant to continue its program of identifying superior and talented students in high school, to encourage them to achieve well in academically demanding courses, and to motivate them to continue their education beyond the high school.

The grant was announced in early December by the Carnegie Corporation which launched the program last year with a grant of $174,000. Under the program, 100 schools in nineteen Midwestern states are being helped to identify able students, provide increased counseling services, adjust curriculums, and establish closer contacts with parents.

William R. Ross of Colorado, president of the North Central Association, said that 27,000 students have been identified as superior and talented during the eighteen months since the program started.

White House Conference On Children

For the sixth time in fifty years, a White House Conference on Children and Youth — the golden anniversary conference — will be held in Washington D. C., March 27 to April 2, 1960. As stated by Katherine Oettinger,

chief of the U. S. Children's Bureau, the conference will provide "a new, vital springboard into the exciting decade ahead . . . which will add new dimensions to programs which serve children in all phases of their growing process."

The 1960 Conference is being conceived more broadly than any of its predecessors. In carrying out the theme "To provide opportunities for children and youth to realize their full potential for a creative life in freedom and dignity," the meeting will follow a three-pronged approach involving:

1. Study and understanding of the values and ideals of our society; the effects on the development of children and youth of the rapid changes in this country and the world; and how family, religion, the arts, government, community organizations and services, and the behavior of adults in their interactions with children and youth deter or enable individual fulfillment and constructive service to humanity.

2. Examination of the degree of achievement of previous White House Conference goals and recommendations.

3. Determination of the action that individuals, organizations, and local, state, and national government can take to implement conference purposes.

The subject matter of the Conference will center around two main topics: *The World Around the Young,* which will furnish a point of departure for considering needs and problems in terms of the external influences affecting young people; and *The Young in the World,* which will serve as a focus for examining the needs and problems of youth from a personal and individual standpoint.

The program will be concerned with every aspect of the child's life—health, education, recreation, job opportunities, and family relationships—and with all types of children. The average boy and girl and the circumstances influencing their creative potential will be as much an object of study as gifted, disadvantaged, and delinquent children.

The Conference planning provides for presenting key topics in three kinds of meetings: theme assemblies, forums, and work groups. To enable every participant to share in the creative work of the gathering, each person will be assigned to an assembly, a forum, and a work group on the basis of an advance choice of interests and will be expected to remain with this assignment throughout the conference. A summary report bringing together the conclusions of the forums will be given at the closing session of the Conference on April 1.

The Golden Anniversary Conference will be larger and more broadly representative of citizen interests than any of its predecessors. Seven thousand invitations are being issued in the President's name. These include nominees of the State White House Conference Committees (2900); representatives of national organizations concerned with the well-being of children and youth (1700); public officials (600); professional leaders and workers (400); young people from every state in the union (900); and, for the first time, teen-agers and guests from foreign lands (500). The last named will take their place in all activities, not as observers or consultants but as full time participants with the same privileges as other members.

Current Periodicals

• *Edited by John M. Beck*
Chicago Teachers College

"Every Man, His Library." By William Ready. *The Educational Forum*, January, 1960.

In introducing his recommended list of scholarly works to form a nucleus of a teacher's library, the author states that an increasing number of teachers entering the profession are unaware that a "personal library should be as much a part of their equipment as their diploma, as their education itself." This unawareness, one may add, may also explain why reading surveys in recent years have listed teachers among the infrequent readers of books. The author maintains that even if library services are conveniently available, they do not absolve the teacher from the duty of having a personal library, spending "thousands of dollars" upon his library during a lifetime.

Early in his career, the teacher should acquire basic reference books—encyclopedias, dictionaries, and essential volumes in the social sciences, humanities, and sciences. To offset the relatively high cost of reference books, the library builder is referred to the fine source of paperbacks, originals and reprints. Book clubs are also suggested, but literary and critical reviews, such as the *Times Literary Supplement* and the *New York Times Book Review*, are considered a better means to keep abreast of the best that is being published. Many will agree with the author's concluding statement (especially teachers who have a personal library) that there is no other way to improve the mind, "no matter what the audio-visual experts say," save by reading.

"Typing Belongs in the Elementary Curriculum." By Leo B. Hart. *Business Education World*, January, 1960.

Typing is one of twenty-one electives in the elementary curriculum at Pondham Union Elementary School, Pond, California. Since 1948, on Mondays each of the pupils in grades five through eight spends the day taking a program of seven electives. The typing class is one of the most popular in the Monday program. Pupils usually begin typing in the fifth grade and complete a four-year program. No attempt is made to separate the pupils by grade or by age. Typing becomes a competitive affair only during the last month of school when pupils strive for "honors." The seven typing classes average about sixteen pupils. Every pupil has his own text, the same as is used in high schools, and works individually on his lesson, although the teacher is avail-

able for help. "Graduates" claim that typing has aided them in their high school spelling and composition assignments. Other Monday electives include algebra, geometry, chemistry, physics, biology, Spanish, and drafting.

"Merit-Rating Salary Plans in Public School Systems of the United States, 1955-56." By Irvin Albert Karam. *Journal of Educational Research*, December, 1959.

This status study is the result of an exhaustive investigation in the field of merit-pay systems. The author's purpose was to determine the basic facts underlying the development, installation, and administration of merit-rating salary plans. Of over fifty thousand school districts in 1956, a total of sixty-nine were found to have active merit-salary provision. The extensive summary of findings will be of interest to all students of merit-rating, especially school boards and school personnel. The study revealed that the supermaximum plan was most common among the seven merit-pay plans used by the sixty-nine school districts.

Some of the other findings were:

1. Teacher populations ranged from 27 to 708; 73.9 per cent of the sixty-nine districts had fewer than 250 teachers.
2. Nearly all the plans, 92.7 per cent, have been developed since 1946.
3. Majority of the superintendents disclosed that merit-pay plans were developed as a result of school board pressure.
4. Percentage of teachers receiving some form of merit pay in the year 1955-56 ranged from 0 to 61 per cent of the total faculty.
5. Teachers served as raters in only 11 per cent of the total plans.
6. Approximately 65 per cent of the plans provided for teacher-appeal of evaluators' decision.

The study is concluded with a list of seventeen recommendations for developing a merit-pay program. These recommendations represented a summary of suggestions made by the chief administrative officials in the merit-pay school districts.

"The '600' Schools." By Carol Cordes Smith, *Education*, December, 1959.

New York City's "600" school program, devoted to the rehabilitation of children with grave emotional and behavioral problems, has been making significant strides since its inception in 1946. The program has grown until today it comprises twenty-two units and seven annexes. Children from nine to sixteen years of age with I.Q.'s above 75 are admitted to the program from other public schools in the city. Considerable success has been achieved despite inadequate buildings and insufficient provisions for special services, e. g., psychological and psychiatric, medical, and remedial-reading.

Although the several dimensions of the "600" program reflect sound applications of educational principles, the key to the success of the program is probably the recruitment of special teachers. The teachers are selected on the basis of their past experience and demonstrated success with maladjusted children. In addition, they must meet certain course requirements in mental hygiene, guidance, remedial reading and arithmetic techniques, testing procedures, etc. Other qualities which are necessary for success in the "600" program are patience and empathy, resourcefulness and flexibility, a high frustration tolerance, and a ready sense of humor. Of some importance, perhaps, is the fact that most of the teachers on the day-school faculty are men. To aid in recruitment as well as to reward special qualifications, there is a bonus of $480 yearly for teachers in the "600" program.

Present plans call for the establishment of an experimental research pro-

gram aimed at an earlier identification of problem children. Steps are also being taken to widen community contacts with social and civic organizations and with individuals representing industrial and manufacturing concerns in an attempt to augment and improve the many activities on behalf of the problem children.

"The Use of Critical Wit in the Classroom." By Damon Kelley, O. Carm. *The Catholic Educational Review*, December, 1959.

Should teachers employ sarcasm, irony, and elements of satire in the classroom? From the discussion of different kinds of critical expressions, it is made obvious that some are detrimental and should never be used. Banter, ridicule, and derision make up the three-fold classification of critical wit. Of these, banter is said to have a definite place in certain phases of teaching, especially in the maintenance of discipline and in motivation. Ridicule and derision are ruled out at any stage of education since they discourage pupils and arouse emotional reactions inhibiting learning.

As a teaching device, banter is said to communicate wit, friendship, and reproof. Banter also satisfies the need for affection, belonging, and social approval. The need for social approval, for example, is satisfied by the recognition given before the group to the one bantered. In maintaining classroom discipline, banter's mild criticism serves as a mild punishment. To motivate, the teacher may use banter as a friendly means to question the ability of the class or of a student to carry out a learning exercise. The many advantages of banter over ridicule and derision are made quite apparent. Nevertheless, the discussion has added value as a reminder to exercise care in using critical wit in any form.

"New Forces in School Administration." By Daniel E. Griffiths. *Overview*, January, 1960.

In the future schools will have better educational leadership. This hopeful prediction is based on the progress made since World War II in projects for improving educational administration. In tracing the shift in administrative control, the author indicates that traditional administrative control by domination, involving explicit instruction and mechanical compliance, is becoming less and less effective due to the "extended preparation of teachers, increased power of teacher organizations and the teacher shortage."

Domination is giving way to a new kind of executive power, control through manipulation. The new method is indirect and utilizes positive incentives rather than physical threats, and takes into account the subordinates' predispositions. Questions may be raised whether such group persuasion by manipulation may be entirely ethically justifiable; nevertheless, the new type of control is growing popular among modern organizations.

Aside from the change in control techniques, the subject-matter of modern administration is becoming more complex; preparation in the "school of hard knocks" or an abundance of common sense does not suffice. Modern administrative theory is giving rise to new programs of preparation which include motivation, perception, communication, power structure, authority, group dynamics, decision-making, and leadership. More emphasis is being placed upon producing administrators who are also "educated men," aware of their "cultural heritage, of the humanities, and of the place of science in modern life."

It is also significant, as the author points out, that the emphasis in preparation is moving away from "bonds,

buildings and buses and towards the true content of administration—people." The emerging school executive, among other things, will be an expert on the behavior of human beings and will possess a set of values enabling him to function in a democratic society.

"How To Deal with Left-Handedness." By Frank N. Freeman. *NEA Journal*, January, 1960.

Teachers will find this article by a well-known expert on handwriting most helpful in meeting the problem of the left-handed pupil in class. The "problem," left-handed children represent about eight per cent of the American public school population. The suggestions offered by the author are particularly valuable since teachers so often meet with conflicting advice on how to treat the left-handed child. According to the author, the acceptable facts strongly suggest that hand preference is based on the "constitution of the organism and that tampering with it may have serious consequences." Hand preference, right or left, is said to be a natural trait and ought to be treated as perfectly normal. Furthermore, the normality of left-handedness should be stressed in order to counteract the widespread feeling that it is something queer or unfortunate.

In considering the specific problem in handwriting, teachers are advised to correct the left-handed pupil's natural tendency to bend the wrist over the top of the writing, adopting the "hook" position which at best is an awkward method of writing. A more comfortable position is described and recommended, in which the pupil places the paper parallel to the left arm and angles it toward the right instead of the left.

Even though the left-handed child is not as handicapped living in a right-handed world as was once believed, it is recommended that he be carefully tested to be sure he is definitely left-handed. Several tests are listed for this purpose. In his conclusion, the author stresses the importance for teachers to assure the left-handed pupil that this is a normal trait possessed by many, including such "distinguished company as Leonardo da Vinci, ex-President Truman, and Babe Ruth."

"Does Homework Help? A Review of Research." By Avram Goldstein. *The Elementary School Journal*, January, 1960.

Some 280 articles and reports written during the last thirty years on the value of homework are examined and evaluated by the author. The findings will surprise teachers who may have been committed to a program of no homework. Data in most of the studies indicate that regularly assigned homework contributes directly to higher academic achievement. There is also evidence to support the claim that homework has a long-term effect on study skills and attitudes, e. g., the positive effect of a homework policy in the elementary grades upon academic performance in high school. Statements, frequently made, that homework may have adverse psychological effects are unsupported by research.

As yet, however, no research studies have been undertaken to determine the value of homework in grades one through four. The widespread practice of eliminating required homework during the past decade are not substantiated by research findings. Currently, the consensus among educators is said to be swinging back toward regular homework assignments in grades four and above. To meet an immediate need, the recommendation is made that required homework be reinstated as a worthwhile procedure in the elementary school. It is also suggested for high school students.

New Teaching Aids

● *Edited by Joseph J. Urbancek*
Chicago Teachers College

Films

Beyond Our Solar System. 1 reel. 16 mm sound. 11 minutes. Black and white, $60. Educational Collaborator: Henry J. Otto, Coronet Instructional Films, 65 E. South Water St., Chicago 1, Ill.

This film is an excellent introduction to a consideration of stars. It illustrates a few constellations in the northern sky which are visible all year around. The classifications of stars, red giants, yellow stars, and blue whites, is mentioned but not given in any detail. Nova and supernova are illustrated. The emphasis on Orion is a good one, since of all constellations students find this even more readily than those near the pole star. Nebulas, star clusters and galaxies are depicted by means of the excellent photographs furnished by our major observatories.

The pace of the film is lively and there is no lingering over diagrams and photographs.

The film is kept very simple probably because it is directed for the intermediate and junior high grades. The surprising thing is that much of this information is not understood by students of physical science at the junior college level. Therefore, it most probably can be used in senior high school and can also be recommended for use in the junior college.

William I. Harber

Missing Witness. 1 reel. 16 mm sound. 10 minutes. Black and white, $60; color, $120. Sid Davis Productions, 2500 South La Brea, Los Angeles 16, Calif.

A teen-ager becomes involved in a collision through no fault of his own. The driver of the other car is unconscious, seriously hurt, and the only witness leaves the scene. Community feeling runs high against the teen-age driver. The young adults ban together to find the missing witness and through their courteous, careful, and safe driving in their search change community opinion to assist in finding him. The community comes to realize that teen-agers can be responsible drivers and they become aware of the importance of remaining at a scene of an accident as a witness. The teen-agers learn the importance of their safe driving.

This is a two-level educational film employing a suspense story while incorporating the importance of safe driving for teen-agers. The film could have attained more cohesiveness within its objectives by deciding which of the two purposes was of major concern. A teen-age viewer might have difficulty ferreting out the film's true objective of driver education. Dorothy Kozeluh

Boats: Buoyancy, Stability and Propulsion. 1¼ reels. 16 mm sound. 13 minutes. Black and white, $75.00; color, $137.50. Educational Collaborator: Robert Stolberg. Coronet Instructional Films, 65 E. South Water St., Chicago 1, Ill.

In the present rage of films and books attempting to explain the mysteries of nuclear forces and polar orbits, it is refreshing to find one devoted to the implications of something as basic as Archimedes' Principle. The first part of this film illustrates this principle with a suitable demonstration tank. The basic ideas of ship stability are then demonstrated with the same tank and with drawings. The final scenes of different kinds of marine propulsion do not come up to the earlier parts of this film. A group of upper elementary children would find this a valuable addition to classroom experiments in this area of science. John J. Bowen

Solutions. 1½ reels. 16 mm sound. 16 minutes. Black and white, $90; color, $165. Educational Collaborator: Dalle A. Dreisbach Coronet Instructional Films, 65 E. South Water St., Chicago 1, Ill.

The film opens with pictures of the sea and residues left when sea water evaporates. Then follow demonstrations of: A molecular or ionic uniform dispersion of a solute in a solvent in which the ratio of solute to solvent may be varied, presenting the general characteristics of solutions and a potassium permanganate solution illustrating that a solution of a solid in a liquid cannot be filtered out and that the solute has uniform dispersion even if the solution is divided. A saturated solution is made and defined by adding cupric sulfate to water. Experiments show that certain solids are practically insoluble in water, some slightly soluble, and others highly soluble.

The role of differences in solvents is illustrated by contrasting the solvent properties of water, oil, and petroleum ether and stating the general lure that like dissolves like. Speed of solution is increased by powdering a solid, stirring, and heating. The role of temperature and pressure is shown with experiments involving carbon dioxide solutions in water. All gases are mutually soluble in each other since adding any gas to another results in complete molecular despersion.

Carbon tetrachloride dissolving grease, anti-freeze solutions, perfumes, medicines, distillation, and crystallization of table salt and magnesium compounds from sea water indicate some of the useful aspects of solutions.

Except for the detailed titration of an acid and a base, the film is relatively simple in nature. The reviewer feels that the film would be most useful at the general science and high school chemistry level.

William H. McLain

One Day's Poison. 1 reel. 16 mm sound. 30 minutes. Black and white, $130.00. Available from National Film Board of Canada, 680 Fifth Ave., New York 19, N. Y.

Of all persons under 20 years of age, the greatest killer is accidents; and of all children under 6 years of age, accidental poisoning is said to kill as many as disease.

The film tells the entire history before, during hospitalization, treatment and recovery of a case of aspirin poisoning in a young child. Interludes dealing with other child poisonings are put into appropriate sequences during the film. The coverage of the activities of the Poison Control Center at Toronto's Sick Children's Hospital points up cooperation between the Poison Center and manufacturers of household products, chemicals, drugs and such, and of the services and information furnished by the poison center to hospitals and physicians.

This is not a teaching film as such, but everyone of high school age and past should see it, and perhaps even seventh and eighth graders. Such things as the overcrowded medicine cabinet, unlighted medicine cabinet, availability of drugs and chemicals to children, and failure to read labels before taking medicine are emphasized.

The Film Board's information bulletin about this subject is informative, accurate, and reliable. The poison center deals with about 237 cases per month. The review copy of the film was badly scratched. The hysterical mother portrayed in the film could be understood only with great difficulty.

This reviewer, after seeing the film will recheck the location of any potential poisonous substances about the home, as well as the contents of the medicine cabinets.

James M. Sanders

Study Kit

This Is Central America. Study Kit. $55 complete. By Russ and Nita Rosine. Produced by Filmscope Inc., Box 397, Sierra Madre, Calif.

A study kit consisting of eight color filmstrips, six booklets, one 10-inch LP record, a weaving sample, postage stamps, money specimen, some dried agricultural products, and a map showing the Inter-American Highway. Review of the filmstrips follow:

1. *The Inter-American Highway.* A general overview of that portion of the Pan American Highway which begins at the Mexican-Guatemalan border and ends at the Panama Canal. Highlights of the 42 frames include the various means of local transportation, a few commercial products, and some general scenes of the major cities. Although the frames give the impression that the highway is complete, there are gaps which necessitate other means of travel. The strip definitely needs a series of maps of the individual countries in order to show the route more clearly. In general, the strip provides a good introduction to Central America and whets the appetite for the series to follow.

2. *Guatemala Today.* Subtitled the "Land of Mayas and Mountains," this 40 frame strip excels in local color and human interest. The theme centers on a visit with an Indian family near Chichicastenago and illustrated the activities of the family—weaving, carving, cooking, laundering, etc. A series of frames on the local market and the ancient Mayan ruins adds greatly to the quality of this strip. The final portion is devoted to random views of Guatemala City and Antigua. One major addition appears obvious, namely, the inclusion of a detailed map showing the exact location of the cities and their relationship to the Inter-American Highway.

3. *El Salvador Today.* The subtitle "Land of Coffee and Volcanoes" is well chosen for this, the smallest of the Central American Republics. Major emphasis centers upon subsistence and commercial agriculture with excellent sequences of the sugar and coffee industries. Also included in the 40 frames are views of the volcano, Izalco, the "Lighthouse of the Pacific," and a few frames on the capital city, San Salvador. In addition to its need of a detailed map, the strip should have a graph or some visual device showing the importance of coffee in the country's economy.

4. *Honduras Today.* A 42 frame strip subtitled "Land of Bananas and Pines." The most outstanding feature of this number is the sequence of banana production and banana shipping. Scenes from sidetrips to the coast showing forests and the cities of Tegucigalpa and San Lorenzo complete the cross sectional approach used in this strip.

5. *Nicaragua Today.* Subtitled the "Land of Tropical Lakes," this strip takes the viewer on a general trip through the countryside emphasizing the life of the rural folk. Good scenes of Managua and Lake Nicaragua are shown but with far too much stress on the public buildings of its capital city. Although a total of 40 frames are used, the filmstrip constitutes a weak number in the entire set.

6. *Costa Rica Today.* The subtitle "Land of Peace and Plenty" is fitting for this prosperous Central American Republic. A good cross section of the country is shown by a rail and road trip from Puerto Limon on the Caribbean Coast to Puntarenas on the Pacific Coast. An excellent series of views on cacao and abaco constitutes the best portion of this 42 frame production.

7. *Panama Today.* Although subtitled "Land of Destiny," this 36 frame strip gives only brief mention of the true potential of this country. Much effort is given over to the historical aspects of Panama, its routes of trans-isthmus transportation, and a general promise of better things for the future. The production is definitely the poorest unit in the entire set and needs considerable revision in order to maintain the quality established elsewhere in the series.

8. *The Panama Canal.* A subtitle, "The Land Divided—the World United," constitutes a unique but logical introduction to the Panama Canal. The central theme, a journey through the canal, is developed around the activities of a canal pilot on one of his trips from the Caribbean Sea to the Pacific Ocean. A diagram showing water levels and the locations of the locks plus statistics on elevations and distances add much to the understanding of the strip. Further information concerning the shortening of the world trade routes and the types of cargo passing through the canal could have been included.

Overall, the authors are to be commended for a good presentation. The photography is excellent and the captions are brief but adequate. A series of questions or suggested topics for further study at the conclusion of each number would enhance the value of the set. Recommended for middle and upper grades social studies classes.

The record is 10-inch 33⅓ RPM recording of typical sounds along the Inter-American Highway. Included are the sounds of a market in Chichicastenago, a corn grinder, a volcanic eruption, a banana loader, auto horns, steam locomotive, street noises, and the creaking of an ox cart. Although the voice of the narrator, Gene White, is pleasant and understandable, the value of the recording itself is somewhat questionable. With the exception of the "chatter" of the Guatemala market square, most of the sounds have little if any value in understanding the people and land of Central America.

Included in the set are six basic information booklets on each of the Central American Republics. These may be obtained independently from the Organization of American States, Washington, D. C. An

Esso Standard Oil Map of the Caribbean Sea and the adjacent lands is also provided. A National Geographic Map, with more detailed information, should have been included.

A plastic envelope containing a small sample of Guatemalan weaving and a plastic lamination containing a one cordoba bank note of Nicaragua and an uncancelled postage stamp from each of the Central American Republics give an interesting touch. A plastic packet included contains a few samples of cacao beans, abaca fibers, coffee berries, and coffee beans.

The booklets, maps, products and other materials listed above add to the value of the study kit. However, the number of samples needs to be increased if they are to be used effectively in today's classrooms with more than twenty or thirty students. A series of large photographs of typical people and products would be a valuable supplement.

Vernon W. Brockmann

Maps

Transportation Facilities of the World. Size — 64" x 44". Scale — 400 miles to the inch. Edited by George F. Jenks and Thomas R. Smith. Published by Denoyer-Geppert Company, 5235 Ravenswood Ave., Chicago 40, Ill.

A Denoyer semi-elliptical projection showing the distribution of railroads of all gauges; all-weather and all-season roads; airports with scheduled airline service; and seaports with more than 10,000,000 tons of shipping. The major map is supplemented by the inclusion of two insert maps showing (1) reliability of road data, and (2) inland waterways of the world.

The need for an up-to-date world transportation map is only partially satisfied by this cartographic effort. Its major faults are as follows:

1. The use of *all* rail gauges in depicting world rail transportation. Many nations have considerable trackage of narrow gauge lines which often serve only local mines, lumber camps, or plantations. Such lines have much less significance than a transcontinental carrier and should either be omitted or designated as narrow gauge railways.
2. The use of a single symbol to indicate all airports with scheduled airline service. Many of the airports shown on the map have only weekly or monthly service and do not warrant the same degree of importance as those with daily service.
3. The lack of place names accompanying the symbols for seaports handling over 10,000,000 tons of shipping. Many students are not too familiar with world locations and therefore would require an atlas or another map to determine which seaports are indicated.
4. The lack of a satisfactory measuring device to indicate the density of transportation facilities. The scale in use requires mainly the judgment of the student and/or the instructor rather than precise statistics.
5. The lack of over-all clarity when viewed in a classroom situation. From a distance of fifteen feet or more, the symbols blend together and cannot be distinguished or interpreted by the student.

As a whole, the theme of the map is excellent, but the techniques used in expressing the theme are poor.

Vernon W. Brockmann

Communication Facilities of the World. Size — 64" x 44". Scale, 400 miles to the inch. Edited by George F. Jenks and Thomas R. Smith. Published by Denoyer-Geppert Company, 5235 Ravenswood Ave., Chicago 40, Ill.

A Denoyer semi-elliptical projection showing the density of radio and television sets and newspaper copies in relation to population. Density is shown by using two tones of symbols: more than 8 radios or television sets or more than 8 copies of newspapers per 100 persons; and less than 8 radios or television sets or less than 8 copies of newspapers per 100 persons.

Although the map represents a major achievement in depicting world distribution of communications, the failure to include telephone and telegraph facilities reduces its value considerably. The density of television sets per unit of population is not an effective measuring device of communication since few foreign countries possess them and since many people view it only as a medium of entertainment. Furthermore, no justification exists for the use of the number 8 as a measure of density. This map has rather limited possibilities for use in high school or college classes in social studies.

Vernon W. Brockmann

Important New Books

• *Edited by Louise M. Jacobs*
Chicago Teachers College

For Teachers and Supervisors

The Future of Public Education. By Myron Lieberman. University of Chicago Press, 5750 Ellis Ave., Chicago 37, Ill., 1959. Pp. 294. $5.00.

An excellent analysis of American public education. In contrast to the sputnik-inspired exposés of America's failures in education by a variety of pseudo-experts, this book provides a well-informed constructive criticism. His program for improving public education is argued convincingly in several key chapters dealing with local school control, teacher education, liberal education, teachers' organizations, and employer-employee relations in education. What he proposed to make public education more effective may require much greater effort and understanding on the part of the teaching profession and the public than is usually evident. In addition to his proposals for educational reform, critical references are made to the educational positions taken by Bestor, Conant, Rickover, Woodring, and others who have been debating the current issues in public education.

John M. Beck

The Great Debate: Our Schools in Crisis. Edited by C. Winfield Scott, Clyde M. Hill, and Hobert W. Burns. Prentice-Hall, 70 Fifth Ave., New York 11, N. Y., 1959. Pp. 184. $1.95.

This is an excellent collection of pros and cons of fundamental issues in education which have been debated during the 1950's. Most of the materials in the anthology are reprinted from popular magazines. In preparing the book, the editors have included criticisms voiced by both professional educators and vocal laymen. Among the names more familiar to readers are Bestor, Trow, Woodring, Conant, Hollingshead, Hechinger, Eurich, and Rickover. The volume covers a wide area of fundamental criticisms in public education excluding only religion and finance. The final chapter presents strong evidence for public education. Although prepared primarily for laymen, the authoritative articles are well adapted to basic courses in teacher education.

John M. Beck

Automatic Teaching: The State of the Art. Edited by Eugene Galanter. John Wiley and Sons, 440 Fourth Ave., New York 16, N. Y., 1959. Pp. 198. $3.25.

A collection of sixteen papers on the subject of teaching by machine. The papers, presented at a symposium held at the University of Pennsylvania, discuss every important aspect of machine teaching. The reader will agree with the editor's introductory remarks that the object of the papers is not to provide information for implementing the school curricula by machine teaching, but to aid the researcher in this field. Among the better known contributors to this collection are B. F. Skinner, S. L. Pressey, and Norman A. Crowder.

John M. Beck

Graded Selections for Informal Reading Diagnosis. By Nila Blanton Smith *et al.* New York University Press, Washington Square, New York 3, N. Y., 1959. Pp. 183. $3.00.

Recognizing the values of standardized tests, yet cognizant of their shortcomings, the instructional staff of the Reading Institute of New York University with Nila Blanton Smith attempt something different: To base tests on graded reading selections which the child is to read orally. This book consists of selections from pre-primers through third readers, each followed by tests in comprehension, interpretation, vocabulary, and word recognition skills. It also gives simple instructions for use of the material and sug-

gestions for interpretation of results. It is assumed that the results indicate the grade level at which the child should be reading but not his grade placement. This test could be helpful if used intelligently.

Mabel C. Hemington

About Yourself. Book V in Health and Safety, Curriculum Foundation Series. By W. W. Bauer. Illustrated by Michael Mitchell. Teachers' Edition. Scott, Foresman and Co., 433 E. Erie St., Chicago 11, Ill., 1959. Pp. 288. $2.20.

A complete teaching program of eight units on health and safety for the fifth grade. The fundamental information presented in clear, personalized, and readable language is supplemented with selected and pertinent pupil activities. Formal illustrations and the use of color contribute to the attractiveness of the text.

The 192-page guidebook which is included in the teachers' edition contains a wealth of helpful material for the enrichment of each unit. Each lesson pattern provides for interpretation of the text, questions for further discussion, sample experiments, vocabulary development, creative activities, and additional content for the teacher. The lesson plans provide reduced facsimiles of the pages in the pupils' text to aid the teacher in quick recall of the content of each page. List of films, filmstrips, books, and material are provided for each unit. Suggestions are made for working with parents on mutual problems of health and safety.

Muriel Beuschlein

Teaching Music in the Elementary School. By Anne E. Pierce. Henry Holt and Co., 383 Madison Ave., New York 17, N. Y., 1959. Pp. 239. $4.95.

This text describes a well-balanced music program for schools and gives valuable suggestions for implementing it. It discusses procedures and teaching aids, and includes an unusually comprehensive chapter on materials. Especially appropriate to classroom teachers is the author's recommendation that they perform some of the musical tasks which they will later expect of their own pupils; they should sing, play, listen to, compose, read, and discuss music. Although intended for use by the classroom music teacher and the specialist, this book will also be helpful to administrators who seek an overview of the music curriculum of the modern school. An appendix supplies an excellent review of musical theory.

Rose Klowden

Creative Crafts for Everyone. By G. Alan Turner. Viking Press, 626 Madison Ave., New York 22, N. Y., 1959. Pp. 263. $6.50.

Many ways to do interesting and unique things with low cost materials are presented in this "how to do it" text. It is one of the better books of this type because the examples are excellent and more than one way of working with each material is described. This is a good supplementary and "idea book" for the art teacher on almost any grade level, provided the material in it is used as a starting point toward letting the child develop his own creative ideas rather than emphasizing the end product.

Jane Neale

For the Kindergarten and Primary Grades

I Want to Be Series. By Carla Greene. *I Want to Be a Mechanic.* Illustrated by Mary Gehr. *I Want to Be a Fireman.* Illustrated by Irma and George Wilde. Childrens Press, 310 S. Racine Ave., Chicago 7, Ill., 1959. Unp. $2.00 each.

The wheel and the lever are simply explained in *I Want to Be a Mechanic,* a beginning reading book. It might even be useful to inspire older retarded readers to become mechanics. There is respect for an essential trade and for the value it has in the modern world. The book needs editing in regard to capitalization.

I Want to Be a Fireman is a useful book for beginning readers who are studying units. The obvious attributes of firemen are depicted in words and illustrations, some of which are too indistinct for group showing. Fireman Tom looks like a teen-ager and a dog and puppies make a disconnected appearance in the story. The book could be improved by the elimination of some usage errors. Marcella G. Krueger

Soon After September. By Glenn O. Bough. Illustrated by Jeanne Bendick. Whittlesey House, 330 W. 42nd St., New York 36, N. Y., 1959. Pp. 48. $3.25.

In easy to read story form, basic concepts of how plants and animals live in winter and the changes and adjustments they make are impressively presented. Vivid illustrations in yellow, black, brown, and white. A good supplement to our new Science Guide. Recommended for grades two to four.

Bertha Z. Albrecht

How to Watch a Parade. Written and illustrated by William A. McCaffery. Harper and Bros., 49 E. 33rd St., New York 16, N. Y., 1959. Pp. 32. $1.50.

A simple, concise story on how to watch parades: raise your flag, invite your friends and pets, and mark time. Simple ink sketches show circus animals, crowds of legs, confetti, and daddy's shoulders. The best parade is saved for the climax. Good motivation for many units and activities for children from three to six years. Denise Dopke

The Biggest Hat in the World. Written and illustrated by Robin and Billie King. E. P. Dutton and Co., 300 Fourth Ave., New York 10, N. Y., 1959. Pp. 39. $2.25.

A big hat can be a ticket to the land of make-believe when a little boy wears it. After much effort and persuasion, the child finds a hat that helps him become a very special person. What he does after he finds the hat and why he does not keep it are told in an appealing style. Large, clear illustrations supplement the story. Suitable for ages four to seven. Anne Joyce

Otus, the Story of a Screech Owl. By Robert M. McClung. Illustrated by Lloyd Sandford. William Morrow and Co., 425 Fourth Ave., New York 16, N. Y., 1959. Pp. 48. $2.50.

The life-cycle story of the habits, living conditions, food, and care of the young of the owl world. The many specifics, such as it takes twenty-five days for an owl egg to hatch or it takes fifty fuzzy baby owls to weigh a pound, enrich the science background of any child. Large type and handsome full-page multicolored drawings. Recommended for grades two to four.

Bertha Z. Albrecht

What Does It Do and How Does It Work? Written and illustrated by Russell Hoban. Harper and Bros., 49 E. 33rd St., New York 16, N. Y., 1959. Pp. 64. $3.50.

Children who love movement and very large drawings of bulldozers and tractors will be fascinated by the easy to read, beautifully written and designed text. This large book is strikingly done in yellow, black, gray, and white with large bold black type and short "experience - story" sentences. Recommended for the primary grades and all children who wish to know more about the science of machines.

Bertha Z. Albrecht

The Laughing Bird. By Anita Hewett. Illustrated by Anne Marie Jauss. Sterling Publishing Co., 419 Fourth Ave., New York 16, N. Y., 1959. Pp. 32. $2.50.

Our efforts to acquaint young people with children of other lands can be advanced by introducing them to animals and birds with very different names and from different places. Some have met "koala bear" from Australia and his many friends; now we meet a "kookaburra" who is as happy as our cheerful robin. Although his habit of laughing regardless of the situation was misunderstood at first, the budgies, the turkey, the stork, and the lyre bird came to realize that kookaburra had the courage to laugh when he was sad. This author likes to point a gentle moral, one which first and second graders will understand. The artist uses black and white sketches to portray delicate detail. Ruth H. Dennis

The Elephant's Wish, Jimmy Has Lost His Cap, and *The Birthday Present.* By Bruno Munari. World Publishing Co., 119 W. 57th St., New York 19, N. Y., 1959. Pp. 10 each. $2.00 each.

With this trio of large picture books executed in eleven colors Bruno Munari, an Italian artist, enters the field of children's literature in America. His books are largely decorative and contain but little text. Small children will find pleasure in discovering what each animal wishes to be, where Jimmy's cap is, and what father has brought for a birthday present. Besides the exciting illustrations there are little doors to open and pictures that fold out to further the telling of the story. Children between the ages of three and six will be very happy with these books. Anne Joyce

Which Horse Is William? Written and illustrated by Karla Kuskin. Harper and Bros., 49 E. 33rd St., New York 16, N. Y., 1959. Pp. 24. $1.95.

The very young children of preschool and kindergarten age will enjoy finding William Short on each page as he turns into a horse, a lamb, and other animals to test his mother's ability to know him no matter how he looks. The bit of reading readiness, combined with the secure feeling of mother always knowing her child, makes this a certain "read-it-again" book. The simple, three color illustrations are striking.

Ruth H. Dennis

The Girl in the White Hat. Written and illustrated by W. T. Cummings. Whittlesey House, 330 W. 42nd St., New York 36, N. Y., 1959. Pp. 26. $2.25.

When Annabelle discovers a magic white hat in grandmother's attic, she wishes for the experiences any boy or girl of her age would want. They include birthday cakes and friends to share the fun, a field of waving grass, a circus, and finally a wish to be home after her exciting day. Excellent illustrations. To be read to primary grade children. Catherine E. Tobin

The Smallest Elephant in the World. By Alvin Tresselt. Illustrated by Milton Glaser. Alfred A. Knopf, 501 Madison Ave., New York 22, N. Y., 1959. Pp. 28. $2.95.

A fantasy about an elephant the size of a cat trying to find a house and to look like a cat. Although his original plan proved fruitless, he did acquire a very small house as a result of joining the circus and being picked up by the smallest man in the world. It is brilliantly illustrated with plenty of color and an exciting use of all-over design and black background. A much appreciated feature of this book is the reinforced, soil resistant cloth binding. Ruth H. Dennis

For the Middle Grades

Legacy Series. The Gods of Mount Olympus. By Robert Penn Warren. Illustrated by William Mayers. *The Golden Fleece.* By John Gunther. Illustrated by Ernest Kurt Barth. *The Trojan Horse.* By Shirley Barker. Illustrated by Fritz Kredel. *The Voyages of Ulysses.* By Clifton Fadiman. Illustrated by William M. Hutchinson. *Aladdin and the Wonderful Lamp.* By Anne Terry White. Illustrated by Vera Bock. *Thor's Visit to the Land of the Giants.* By Nancy Wilson Ross. Illustrated by Aldren A. Watson. *The Sword of Siegfried.* By Katherine Scherman. Illustrated by Douglas Gorsline. *Robin Hood, the Outlaw of Sherwood Forest.* By Orville Prescott. Illustrated by Charles Beck. *Paul Bunyan.* By Maurice Dolbier. Illustrated by Leonard Everett Fisher. *Cupid, the God of Love.* By Francis Winwar. Illustrated by Eleanor Mill. Random House, 457 Madison Ave., New York 22, N. Y., 1959. Pp. 52, 54, 57, 53, 54, 51, 51, 51, 53, 54, 54, respectively. $1.50 each.

These ten titles begin a new series by the publisher of Landmark and Allabout books. Although myths, legends, and folk tales, so long a part of world literature, have been translated and edited many times, there is always a need to make the old seem new for the young reader. This has been well done in the series. Each book has been carefully planned: the author chosen is well known and retells the story in a modern style and yet retains the original "facts;" the size of type is large and clear; the paper is of excellent quality; the illustrations are in a style and color befitting the story, green for *Paul Bunyan* and *Robin Hood*, yellow for *The Golden Fleece*, blue for *Cupid*. The stilted language so often evident in earlier editions of the Greek and Norse myths has been replaced without harming the story line in any way.

To a certain extent the old stories suffer from oversimplication. In *The Gods of Mount Olympus*, for example, Dionysus is treated in barely two pages, Hephaestus only one page, and Aphrodite one page. Such rendering barely suggests the rich lore surrounding these gods. Gratefully this oversimplication is not evident in *Paul Bunyan* and *Aladdin*. These two characters are literally new acquaintances with very interesting "new" happenings appearing on every page. In comparing each of the titles with an earlier edition of the tale it was very evident that all in this new series could be recommended. Each one is a new version of an old story told with a new twist, in sparkling style, and is accompanied by new and colorful illustrations. Recommended for readers ages nine to twelve.

Pauline Atherton

The Blue Fairy Book. By Andrew Lang. Illustrated by Grace Dalles Clarke. Random House, 457 Madison Ave., New York 22, N. Y., 1959. Pp. 64. $1.00.

Only seven of Lang's original thirty-five tales are available in this edition: The Princess on the Glass Hill, Puss in Boots, Why the Sea Is Salt, Felicia and the Pot of Pinks, Hansel and Gretel, Toads and Diamonds, and Jack the Giant-Killer. Most of the illustrations are in color. The full-page illustration of Hansel and Gretel at the house of bread and cakes and sugar is especially delightful. An inexpensive but quite acceptable edition of this famous classic.

Pauline Atherton

Canute Whistlewinks. By Zacharias Topelius. Translated from the Swedish by C. W. Foss. Edited by Frances Jenkins Olcott. Illustrated by Frank McIntosh. Longmans, Green and Co., 119 W. 40th St., New York 18, N. Y., 1927, 1959. Pp. 272. $4.00.

This long out-of-print title, now reissued, contains a fine selection of fairy tales, legends, and simple stories of child life in Finland and Lapland told by the "Hans Christian Andersen" of Finland. What Rachel Field said about this book many years ago still applies today: "Excellently selected and translated, these stories have the same simplicity, naive charm, and pious beauty that characterize Andersen at his best." Since nothing comparable exists, it is recommended for the library of every storyteller.

Pauline Atherton

The Golden Touch. By Nathaniel Hawthorne. Illustrated by Paul Galdone. McGraw-Hill Co., 330 W. 42nd St., New York 36, N. Y., 1959. Pp. 61. $2.50.

This well loved classic appears here in an edition all red and gold with fine line drawings which should delight the seven-year-olds who will listen to the story as well as the older children who will read the tale themselves.

Pauline Atherton

A Treasure Chest of Tales; A Collection of Great Stories for Children. McDowell, Obolensky, 219 E. 61st St., New York 21, N. Y., 1959. Pp. 696. $4.95.

Of the twenty-five selections, four are full-length books: *Alice's Adventures in Wonderland, Black Beauty, The Rose and the Ring,* and *Granny's Wonderful Chair.* An adaptation from *The Arabian Nights,* containing The Story of the Three Calendars, Sons of Kings, and The Five Ladies of Baghdad, is also included. Thirteen stories in poem form include selections from Edward Lear, Hillaire Belloc, William Cowpen, Robert Browning, and Oliver Goldsmith. The old stand-bys of any storyteller are here, along with Aesop's Fables, The Snow Queen, and The Brave Little Tailor.

This book is a treasure chest for the parent who likes to enjoy what he reads to his children, but the format—thin paper, narrow margins, few illustrations—will possibly keep any child from reading it by himself.

Pauline Atherton

The First Book of Water. By F. C. Smith. Illustrated by Mildred Waltrip. Franklin Watts, 575 Lexington Ave., New York 22, N. Y., 1959. Pp. 68. $1.95.

This edition supplants the 1952 issue of the same title and is a completely rewritten book. It treats water, the most important single substance necessary for life, in so clear a manner verbally and pictorially that it is suitable for those of age ten and up. The explanation of water and nuclear power is timely and shows that the more scientists learn about the properties of water the less simple they find them.

Mary F. Polerecky

Follow the Reindeer. By Sonia and Tim Gidal. Pantheon Books, 333 Sixth Ave., New York 14, N. Y., 1959. Pp. 78. $3.50.

This is an outstanding account of life among the nomad Lapps. It is written simply enough for the intermediate grades, but it has interest appeal for any age. Children will appreciate reading about family life, dog pets, spring migrations of reindeer, and the details of food, clothing, and shelter in Lapland. The young boy narrator tells with much suspense of a year in his life. Photographs of the family's activities and end page maps add to the charm of the book.

Marcella G. Krueger

On Foot to the Arctic. By Ronald Syme. Illustrated by William Stobbs. William Morrow and Co., 425 Fourth Ave., New York 16, N. Y., 1959. Pp. 187. $2.75.

Samuel Hearne joined the Hudson Bay Company in 1765, when little was known of Canada which had been a French possession. This young man volunteered for exploration duties and became the first white man to reach the Arctic on foot. The story of the two-thousand mile trip moves quickly. The author based his work on journals Hearne kept of his trip. A very timely book.

Marie L. Horan

Grasslands. By Delia Goetz. Illustrated by Louis Darling. William Morrow and Co., 425 Fourth Ave., New York 16, N. Y., 1959. Pp. 64. $2.75.

Geography presented in a very skillful manner. The vast areas of grasslands have been important in the growth of many countries. Problems of erosion, rotation, and conservation are explained for the middle grade reader. Dramatic illustrations emphasize the vastness of the plains.

Marie L. Horan

Carpentry for Children. By Jerome E. Leavitt. Illustrated by Margrete Cunningham. Sterling Publishing Co., 419 Fourth Ave., New York 16, N. Y., 1959. Pp. 91. $2.50.

Here are fifteen useful, decorative, and easy to construct carpentry projects for boys or girls from the ages of seven to twelve. A sail boat, tie rack, table lamp, and shoeshine kit are among the articles that can be made with the help of the clear diagrams, lists of required tools, and easy to follow step by step directions. Donald Racky

Voici Henri! Here Is Henri! Written and illustrated by Edith Vacheron and Virginia Kahl. Charles Scribner's Sons, 597 Fifth Ave., New York 17, N. Y., 1959. Pp. 60 and 62 respectively. $2.50 each.

An English and a French text of the same story. The French version, which is simple, basic, and natural, could be used in beginning classes in the grades. Two of the three incidents could easily be dramatized. The repetition of varied word patterns and the presentation of longer sentences as well as phrases help pupils to begin the use of the language. The illustrations contribute a great deal to the charm of the books.

Dorothy F. Roberts

A Trip to Paris. By Terry Shannon. Illustrated by Charles Payzant. Childrens Press, 310 S. Racine Ave., Chicago 7, Ill., 1959. Pp. 32. $2.50.

The gay illustrations with their Gallic flavor make it easy to learn the 150 words and phrases which the book sets out to teach. Children can learn these expressions for a real or imaginary trip. The running commentary in English at the bottom of each page gives unity and furnishes a child with interesting bits of information about travel or Paris. This text could be used to introduce the study of French in the grades.

Dorothy F. Roberts

Ramon Makes a Trade. By Barbara Ritchie. Illustrated by Earl Thollander. Parnassus Press, 33 Parnassus Rd., Berkeley 8, Calif., 1959. Pp. 48. $3.25.

A beautiful book about the adventures of a little Mexican boy on market day. The story in English, which has a feeling for Mexico, would be good to read aloud to children in a group and could lead into a Pan-American project. The Spanish version at the bottom of each page, while well written and idiomatic, is too difficult for a pupil at this age or reading level. Delightful illustrations. Dorothy F. Roberts

For the Upper Grades

Life in the Seven Seas. By Peter Freuchen. Illustrated by Wilfrid S. Bronson. Julian Messner, 8 W. 40th St., New York 18, N. Y., 1959. Pp. 64. $3.50.

In this small book about a very large subject, the late Peter Freuchen apparently attempted to scale down a portion of his best-seller, *Book of the Seven Seas,* for adolescent children. It is simply a procession of little known, but most interesting, facts about the multifarious animal life abounding in the ocean; there is no thread of continuity. The subjects dealt with range from corals and flatworms to sharks and whales as well as a consideration of the food cycle beginning with phytoplankton. The author was not a scientist and many errors and misleading statements are made. The notion that perhaps life began in a shallow sea when lightning and a sunbeam met smacks too strongly of a Frankenstein science-fiction thriller. Francesco B. Trama

Before and After Dinosaurs. Written and illustrated by Lois and Louis Darling. William Morrow and Co., 425 Fourth Ave., New York 16, N. Y., 1959. Pp. 89. $2.95.

The appealing illustrations, concise charts, and excellent explanations develop the essence of life on earth which is change. Children of twelve and up will find facts concerning basic concepts of survival, adaptation, and geologic divisions of time. This is not a book for hasty reading, but rather one to be used for reference. The range of the material makes it valuable for adults also. Mary F. Polerecky

Animal Habits. Written and illustrated by George F. Mason. William Morrow and Co., 425 Fourth Ave., New York 16, N. Y., 1959. Pp. 89. $2.50.

This small book presents observations and interpretations of behavior patterns of wild animals. Its fascinating style gives the reader the feeling that he is observing over the author's shoulder the never-ending struggle for survival of animals whose behavior is controlled and guided mainly through instinct. The appeal of the content and the level of the vocabulary are suitable to children of intermediate grades.

Mary F. Polerecky

The Storybook of Science. By Earl Schenck Miers. Illustrated by Jeanne Bendick. Rand McNally and Co., P. O. Box 7600, Chicago 80, Ill., 1959. Pp. 159. $2.95.

A very interesting presentation of eight fields of science from their beginnings to the present. One apparent difficulty with this method is that one can only skim at best the highlights of each field. Nevertheless, as an instrument of motivation and for refreshing style this selection merits the time of middle grade children. Well indexed.

John F. Etten

Gregor Mendel: Father of the Science of Genetics. By Harry Sootin. Vanguard Press, 424 Madison Ave., New York 17, N. Y., 1959. Pp. 219. $3.00.

A fascinating biography of the brilliant but humble founder of the science of genetics. His accurate, analytical experiments on plant hybridization were almost forty years ahead of others. Mendel explained genetics from the point of view of a physicist. Included in the book are six heredity factor charts and genealogical diagrams, but no illustrations. This detailed description of Mendel's work will appeal best to the better high school students. Elmer Casey

My Village in Israel. By Sonia and Tim Gidal. Pantheon Books, 333 Sixth Ave., New York 14, N. Y., 1959. Pp. 78. $3.50.

To those who thought the books in My Village Series were so excellent that there was little room for improvement, here is one that surpasses them all. It is beautiful, well written, and has photographs so fine that many are fit subjects for framing. The busy and rich life of Shmuel charmingly portrays the work, play, ideals, and values in the life of a child in Israeli. Highest recommendation. For ages nine to thirteen.

C. Wallace Dierickx

The Chinese Way of Life. By Lin Yutang. Illustrated by Howard Simon. World Publishing Co., 2251 W. 110th St., Cleveland 2, Ohio, 1959. Pp. 127. $2.95.

This is the perfect supplement to the seventh grade study of the Far East. The language, traditions, and way of life of the Chinese people are revealed through Chu Pin, an American-born Chinese boy. To complete his education he is sent to his homeland to learn all that is Chinese. He travels the road of Marco Polo and unfolds geography and history, leaving one sad that this culture which personified respect for beauty and scholarship should be altered by our busy, grasping modern life.

Margaret Racky

Indians. Written and illustrated by Edward Tunis. World Publishing Co., 2231 W. 110th St., Cleveland 2, Ohio, 1959. Pp. 157. $4.95.

Recreates the life and culture of the Indians before the white man changed their primitive existence. Because there were hundreds of tribes, the divisions are based on the kinds of Indians, determined usually by geographical locations with resultant modes of living, mores, and culture. The format is attractive; the subject is of unfailing popularity. Eve K. Clarke

The Illustrated Encyclopedia. Grosset and Dunlap, 1107 Broadway, New York 10, N. Y., 1959. Pp. 294. $6.95.

Based on an encyclopedia of the Librairie Larousse publishers in France, this single volume text designed for pleasurable reading is organized into five parts, each comprising a multitude of subjects. Although not arranged in alphabetical sequence the book is well indexed for ready reference. Profuse and very colorful illustrations accompany the easy-to-read text which readers of junior high school level and up should find attractive and enjoyable. The identity of the "board of distinguished writers and editors" who aided in the adaptation of the book for American students is not given.

Kathleen D. O'Shea

The Tenderfoot Trapper. By Arthur Catherall. Illustrated by Edward Osmond. Criterion Books, 257 Fourth Ave., New York 10, N. Y., 1959. Pp. 160. $3.25.

How a young English lad meets the challenge of survival in the Canadian North Woods is the theme of this story. Well written, it is best suited to the reading level of the upper grade boy who is acquainted with nature study. The author permits his characters to "lose face" somewhat by a rather weak ending, almost unbelievable in its casualness.

George G. Weihofen

For the High School

Be a Better Reader. By Nila Blanton Smith. Prentice-Hall, Englewood Cliffs, N. J., 1959. Pp. 176. $1.60.

A workbook designed to improve general reading skills and to give practice in reading in the content fields. Section one includes techniques for increasing speed, finding main ideas, organizing materials, skimming, and developing vocabulary skills. Section two deals with methods of reading different types of material in science, history, literature, poetry, and mathematics. Each chapter has good material in developing a vocabulary in the subject. A teacher's guide is available. Should be a valuable addition to the material now available in content subjects in high school.

Helene Grossenbacher

The Romance of Chemistry. By Keith Gordon Irwin. Illustrated by Anthony Ravielli. Viking Press, 625 Madison Ave., New York 22, N. Y., 1959. Pp. 148. $3.75.

A history of chemistry from the days of the pottery workers of the ancient Nile through the post-1900 developments in nitrogen fixation. The emphasis is on the science rather than the technology of chemistry; much space is devoted to the dramatic period starting with the discovery of oxygen. Considerable evidence is presented to show that chemical events may be known in a general way for a long time before someone uses the phenomena for a new conceptual scheme. An excellent book for the unusual elementary school child or the better students in the secondary school.

John J. Bowen

Adventure in Electrochemistry. Written and illustrated by Alfred Morgan. Charles Scribner's Sons, 597 Fifth Ave., New York 17, N. Y., 1959. Pp. 280. $3.50.

This revised edition of an earlier book of similar title contains a very good blending of theory, fact, industrial practice, chemical history, and home laboratory activities. The experiments, which can be done with simple and inexpensive equipment, are well within the grasp of secondary school students and can even be performed by interested students in the upper elementary grades.

John J. Bowen

New Dimensions of Flight. By Lewis Zarem. E. P. Dutton and Co., 300 Park Ave., New York 10, N. Y., 1959. Pp. 256. $4.50.

The current interest in high speed atmospheric and space flight creates a need for comprehensive books in these areas. This is one of the better ones. It treats advanced aircraft, rockets, satellites, guidance systems, and fuels and there are many fine photographs of missiles, testing procedures, and vertical take-off aircraft. This book might be a good purchase for an upper elementary or secondary school library, but the very timeliness of the photographs means that they will be out of date very soon.

John J. Bowen

Window in the Sky. By Homer E. Newell, Jr. Illustrated by Gustav Schrotter. McGraw-Hill Book Co., 330 W. 42nd St., New York 36, N. Y., 1959. Pp. 116. $2.75.

Because the subject of outer space is discussed in highly technical terms the book is recommended only for the student gifted in mathematics and science.

John F. Etten

Frontier America. By Thomas D. Clark. Charles Scribner's Sons, 597 Fifth Ave., New York 17, N. Y., 1959. Pp. 832. $10.00.

Of the many strands woven into the fabric of American history none perhaps has made a greater claim on our imagination than life along the moving frontier. Fascination with this experience has produced a rich folklore currently illustrated by the vast outpouring on television and in the movies. Unfortunately, it has little relation to what actually occurred. It is the great virtue of this book that the author attempts to provide a panoramic view of this decisive ex-

perience. He paints on a broad canvas and there may be individual differences concerning points of emphasis. But given his overriding objective, he provides a needed corrective to the romance of the frontier and offers to interested readers the opportunity to retrace the path of the American surge to the West. Frederic C. Berezin

The War Between the States. By Eric Wollencott Barnes. Illustrated by W. N. Wilson. Whittlesey House, 330 W. 42nd St., New York 36, N. Y., 1959. Pp. 140. $3.50.

Another book on the war between the states, yet the author brings an attractive approach to this period of history. The background of the economy of the South, its society based on the plantation system, the surprise move on Fort Sumter which set off the conflict all make an exciting beginning for the story of the war, which will delight its readers because of the omission of many tiresome details. Excellent for seventh through eleventh grade reading levels. Geraldine O'Malley

Mosby, Gray Ghost of the Confederacy. By Jonathan Daniels. J. B. Lippincott Co., E. Washington Sq., Philadelphia 5, Pa., 1959. Pp. 122. $2.95.

Accounts of the Civil War are often tedious, consisting of dates, battles, and proclamations. Here is a book to fire the imagination of a teen-ager, for it is the story of one of one most celebrated cavalry leaders of the Civil War. Mosby, like the "Swamp fox" of Revolutionary fame, led his men in numerous forays against larger Union forces in northern Virginia. His audacity and intrepid leadership with a small band created havoc behind Union lines and led to his reputation as a dreaded antagonist. If a high school teacher is looking for a book to stimulate interest in the Civil War this one will do so. Frederic C. Berezin

Tecumseh: Destiny's Warrior. By David C. Cooke. Julian Messner, 8 W. 40th St., New York 18, N. Y., 1959. Pp. 184. $2.95.

"A leader must think of his people, not himself. The way of peace was the way of man, the way of war the way of the animal." Thus the author sums up Tecumseh's guiding principles in a striking portrayal of the man who spent his life trying to unify the Indians of North America into a force whose very size would give it the necessary strength to bargain with the surge of white settlers into Indian lands. Although the story is told dispassionately, the reader is left with a tremendous admiration for Tecumseh the man and a better understanding of the Indian point of view in the frontier struggle. This colorful biography will fascinate upper grade boys and very likely some of the girls, too. A bibliography provides documentation for the material included and the index will increase its value as collateral reading. Julienne Couleur

Let's Face It. By Elsie Archer. Illustrated by Harper Johnson. J. B. Lippincott Co., E. Washington Sq., Philadelphia 5, Pa., 1959. Pp. 186. $2.95.

This excellent book on good grooming and acceptable behavior for teen-age girls is written in a warm, chatty style, and discusses frankly some of the problems that concern most adolescent girls. It offers sound advice on the importance of good health, body hygiene, clothes, careers, spare time, and future plans. The subtitle describes this as a "Guide for Good Grooming for Negro Girls," but actually most of the advice and problems are common to many teen-agers, excepting perhaps the chapters on the hair and skin coloring. Even these are enlightening and practical, since shades of skin color and hair texture vary in all groups.

The author, a well known Negro guidance counsellor and fashion expert who has worked with all kinds of girls in New York City, is well qualified to offer advice to girls, especially to Negro girls whose need for acceptance and security is often greater than others. Charlemae Rollins

Growing Your Own Way. By Ruth Bockner. Abelard-Schuman, 404 Fourth Ave., New York 16, N.Y., 1959. Pp. 190. $3.50.

Written for teen-agers but avoiding a pseudo-adolescent style, this book by a top flight psychologist who is also a mother has the rare quality of providing something substantial yet palatable for everyone. About half of the book is devoted to discussions of relationships between teen-agers, parents, teachers, peers, and siblings. Presented through small anecdotes, typical conflicts are analyzed for feelings and outward reactions with simplicity and yet depth. Persons of all ages will be enlightened while they are entertained. Blanche B. Paulson

The Questions Girls Ask. By Marjorie Vetter and Laura Vitroy. E. P. Dutton and Co., 300 Fourth Ave., New York 10, N. Y., 1959. Pp. 156. $2.95.

This book, based on an earlier one by Helen Welshimer, covers the common problems of appearance, clothes, relations with the family, friends, dates, and other preoccupations of teen-agers. It will be useful with girls as it contains much good advice, but its approach to solutions is more symptomatic than casual. Using a Michigan Girl Scout study as the basis for the questions, the topics are comprehensive, but tend to give answers rather than to stimulate the search for them. Blanche B. Paulson

Money in Your Pocket. By Price A. and Martha Patton. David McKay Co., 119 W. 40th St., New York 18, N. Y., 1959. Pp. 181. $3.50.

The authors engage in a lively, intelligent, concise discussion of the personal finance problems of young people. They write in clear and understandable language, without seeming to talk down to their audience. Taking their readers through the teen-age years and into the beginning stages of marriage, they show them how to spend and save for maximum satisfaction. An excellent supplementary text for high school or college consumer economics courses.

Morris Mellinger

Junior High Typing. By Fred S. Cook, *et al.* Illustrated by Tere LoPrete. McGraw-Hill Book Co., 330 W. 42nd St., New York 30, N. Y., 1959. Pp. 215. $3.20.

Based on research, this new one-year text will appeal to junior high school boys and girls. It builds worthwhile typing skills. The interesting and meaningful exercises in communication throughout the text will equip the young student with facility in the language arts, which will be useful to him throughout life. Mary Peterson

Young America's Cook Book. By Dorothy Callahan and Alma Smith Payne. Charles Scribner's Sons, 597 Fifth Ave., New York 17, N. Y., 1959. Pp. 312. $3.95.

This revised edition of an excellent book first published in 1938 makes use of the changes in food technology since that date. The chapters have been rearranged so the progression of learning is more logical. Since there are fewer pictures of children cooking, the appeal of this book does not seem limited to them. The photographs are excellent and the recipes of the original edition are as useful as ever. The new chapters, especially the one on freezing food, give excellent and timely information. It is a good book to have in the classroom as a reference and an excellent one to give to any young cook. Madelyn Gorman

Jewelry Making and Enameling. Written and illustrated by Harry Zarchy. Alfred A. Knopf, 501 Madison Ave., New York 22, N. Y., 1959. Pp. 119. $2.95.

Here are some one hundred pages of inspiring photographs and plans for the beginning jeweler. The author has demonstrated that with simple tools and little equipment camp shops, school clubs, and home hobbyists can make attractive pieces of jewelry. An effort is made to keep sketches and instructional photos in step with the text. With this arrangement the book can be propped in an open position and work carried on as pieces progress.

Fred O. Anderson

Springs of the Waters. By Austin Ballard. Greenwich Book Publishers, 489 Fifth Ave., New York 17, N. Y., 1959. Pp. 207. $3.00.

Jean Beacham, a talented young singer, emerges from a cloistered life on her grandfather's southern plantation to enroll in a northern university. Not only is she confronted by the numerous adjustments such a change would normally entail, but she makes also the startling discovery that her ancestry is partly Negro. All these hurdles she meets valiantly through the guidance and love of another young musician, Michael Ware, who has overcome similar difficulties. The language of the story is stilted and sprinkled with grammatical errors. The mystical quality which pervades the romantic theme suggests that this book would be most appropriate for a library of religious books for older young people.

Julienne Couleur

Younger Brother. By Gwen Pharis Ringwood. Illustrated by Harper Johnson. Longmans, Green and Co., 119 W. 40th St., New York 18, N. Y., 1959. Pp. 213. $3.50.

This story relates how a Canadian teenager ends a minor wave of cattle rustling during World War II. The wartime shortage of meat provides the impetus and western Canada the setting for this theme. The action is slow to start and the suspense is weak. However, character portrayals and scenic descriptions are generally good. All of which seems to point to a limited upper grade audience. Donald R. Martin

Give Me a Ship to Sail. By Alan Villiers. Charles Scribner's Sons, 597 Fifth Ave., New York 17, N. Y., 1959. Pp. 301. $4.95.

This is an interesting, if not a too engrossing chronicle of the author's experiences in sailing ships during recent years. He recounts his work as captain of the Mayflower II, sailing captain and technical advisor to movie companies, and also describes sundry trips over the globe in search of ships to sail. Unfortunately his message, sailing ships are still needed, is too frequently lost in nautical language and technical appreciation to appeal to most high school readers. Donald R. Martin

Fifty Fathom Klondike. By Stewart Sterling. Funk and Wagnalls Co., 153 E. 24th St., New York 10, N. Y., 1959. Pp. 213. $2.95.

Dave, a teen-age mountain boy, gets a job on a Florida shrimp boat. The scorching sun, violent storms, and incredibly hard and dangerous work quickly toughen Dave into a real "shrimper." Recommended for teenage boys for its vivid and exciting account of life on the sea and for its favorable picture of the virtues of hard and honest work.

Eugene Westphal

Educational Conferences and Conventions

February 27–March 2: Forty-fourth Annual Convention, National Association of Secondary-School Principals, NEA, Portland, Oregon.

February 29–March 3: Department of Audio-Visual Instruction, NEA, Cincinnati, Ohio.

March 6–9: Fifteenth Annual Meeting, Association for Higher Education, Chicago, Illinois.

March 6–10: Fifteenth Annual Convention, Association for Supervision and Curriculum Development, Washington, D. C.

March 21: Child Study Association of America, New York City, N. Y.

March 25–30: Annual Convention, Department of Elementary School Principals, NEA, St. Louis, Missouri.

March 27–April 2: White House Conference on Children and Youth, Washington, D. C.

March 29–April 2: Eighth National Convention, National Science Teachers Association, Kansas City, Missouri.

April 2: Twentieth Annual Educational Conference, Chicago Teachers Union, Sheraton Towers Hotel, Chicago, Illinois.

April 3–9: National Library Week.

April 17–21: 1960 Study Conference, Association for Childhood Education International, Cleveland, Ohio.

April 21–23: Fifty-eighth Annual Convention, Illinois Congress of Parents and Teachers, Peoria, Illinois.

April 22–23: Annual Convention, Illinois Council for the Social Studies, Rock Island, Illinois.

April 28–30: Eighteenth Annual Meeting, Midwest Conference of Political Scientists, Bloomington, Indiana.

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